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ORIGINAL ARTICLES.

DIPHTHERIA AND ITS TREATMENT.

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My ear is pained, my heart is sick with each day's report of the fatality of this disease. Two, three, four, five children lost in a single family. Last week five were carried away from one home. How unspeakably sad to loving parents.

In conversation with medical men, and from the writings on this subject which appear in medical journals, I believe that very few physicians have any principles of treatment, but proceed to treat the disease by means of small or large doses of medicine, said by some author to be "good for diphtheria." Some new coal-tar product, perhaps, with a reputation of only a month or two; spts. nitre to cause perspiration; or a quarter or half grain of calomel given every hour, which some one has told them he believes the best, most efficient, constitutional remedy that can be used. In a day or two, as he has no principles of treatment and his patient grows worse, the physician becomes confused, looks through this and that medical journal, finds some remedy recommended as being very "good in diphtheria," and tries that. As the case rushes on, despite his efforts, he falls back for comfort on the fact—as he deems it—"that a certain number of cases will die, in spite of the best treatment." After this conclusion, he merely tries this or that medicine, which some one has recommended, "to see what it will do," though he himself has had no experience with it.

There are a few things indispensable for the treatment of any disease: (1) to discover what is the matter—in other words to diagnose correctly; (2) to establish true principles of treatment; (3) to seek for and apply the measures in accordance with these principles of treatment.

Within the past few years, a physician writing on pneumonia gave a most accurate description of the condition of the system in the various stages of the affection, after which he announced his principle of treatment, viz.: "The pulse must be kept below eighty beats per minute." That was all he aimed at. To do that he used Verat. viride steadily; pushed it as close to the line of danger from its own poison as possible. Though his measures were, perhaps, not the best, yet they were in accord with his principle, which was in fault.

Sixty years ago, malarial fevers, called bilious fevers, were abundant, and the principle of treatment was to heat the system, cause profuse sweating, and thus carry out of the system the special poison which caused the disease. The principle of counter-irritation to allay certain local sufferings, as violent headaches, sickness

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of stomach, etc., was carried into practice by the application of large blister plasters kept on the surface of parts of the body for the space of twelve hours, then poultices or wilted cabbage leaves applied for days to continue a purulent discharge. Hot teas and heavy bedclothes were also applied to continue the sweating. Not a drop of cold water for drink.

So I might recall several principles of treatment, but all this has been merely preparatory to my real object—the presentation of the principles of treatment in diphtheria, scarlet fever, measles and some other inflammatory diseases; also, the means to be used successfully in accordance with these principles.

Some of you have doubtless learned from my writings how I was led, sixty-six years ago, to rebel against the principle of treating measles and scarlet fever by heating the system by means of hot teas, warm bricks to the feet and alongside the patient in bed, excess of bed clothes, and to substitute other measures for relief in accordance with my principle that the *heat of the body in those diseases should be subdued;* and that the most pleasant and, by far, the most efficient means of effecting this was the application of cool or cold water over the surface of the body by sponging and on the head by affusions of the cold water.

Such was the principle of treatment advocated by me sixty years ago, and cold water the means by which the principle was carried into effect; and now, though I join with those who sometimes doubt the veracity of one who, in advocating a certain mode of treatment, says, "I never lost a case," yet it is incumbent on me, now and here, to say that in all those years, from 1829 to this day, not one of the many hundreds of cases of measles, etc., treated by the cooling system, under my care, proved fatal. Yet, even within a few years I have known, both in city and country, children to be lost under the hot treatment.

My position, when defying the old heating treatment so universally believed in by parents and physicians, and in its place substituting a treatment based on the very opposite principle—the use of *cold* drinks and *cold* water applications to the heated body—was not a pleasant one, especially when physicians of many years' experience in practice, denounced my mode in most positive terms as imperiling the lives of my patients. Indeed, had I lost only one or two of my earliest cases, I think I would in all probability have been prosecuted for criminal malpractice. I was so young, so inexperienced in practice, had no precedent to support me, that now it seems to me I was in a perilous situation. But thanks to a kind Providence, I escaped; my patients all recovered; all were happy, as were the parents, under the treatment.

Two years afterward, when an epidemic of scarlet fever occurred, I regarded the same principles of treatment applicable, and when, on or about 1850, we were confronted with a disease—diphtheria—which in its severest forms seemed the counterpart of what we had been used to call "malignant scarlet fever," or "putrid sore throat," I regarded the proper principle of treatment to be the same as in the two other diseases, and that the cold treatment was demanded for the safety of the patient.

I have so repeatedly given my views in relation to scarlet fever and diphtheria that I need say nothing more on these subjects than that, having carefully observed what has been written on other modes of practice and having seen their fatality, I am constrained to say, after so long and vigilant a practice, that there is no other mode of treatment in vogue which at all equals, for comfort to the patients and their speedy and successful restoration to health, that of *reducing the heat* of the body by the judicious application of cold water in the various ways in which it can be applied; and aided, too, by the topical application of ice, when that is needed, to allay the inflammation of the tonsils, sub-maxillary glands and the inflammation of the laryngeal and tracheal mucous membrane in cases where these are so affected as to cause croup. And here I may say that this croupy condition, though one considered almost certainly fatal when occurring in diphtheria, is quite remediable under the proper and persistent application of ice to the front of the trachea, prior to the formation of much diphtheritic membrane. In other words, applied on the first announcement of the croupy cough or voice. In my own practice I had but two very bad cases, and both yielded to the continuous application of pounded ice,

with just sufficient water to bring the ice and ice water in close contact with the fore part of the larynx and trachea, and kept steadily there night and day until the inflammation is subdued. All have heard the reports by practitioners of its great value in ordinary croup. Nor is it strange that it should bring relief. It is impossible for the inflammation to extend under its application. You start at the assertion that it is impossible, and yet it is true.

In 1853, I was called to a woman a few days after the birth of a child, and found her suffering greatly from an inflammation of the left mammary gland. It was swelled, tense and fiery red. I proposed to cover it with cloths wet with ice water and to be renewed every few minutes. She feared a chill, but finally consented. Finding it most grateful, the heat and burning sensation reduced and the pain much abated, she kept the nurse steadily at work applying the cold water cloths.

As the relief was so decided, I procured a bladder; half filled it with small lumps of ice and enough water to form a cushion which would closely fit the whole breast. A few hours showed me that the danger of suppuration was averted. From that day until I ceased to practice a few years ago, I used the ice in every case presented to me, and always with immediate comfort to the patient and instant arrest of extension of the inflammation.

About forty years ago, I was called to a child, aged about one year, ill with scarlet fever. The glands and the tonsils were so swelled that it could not nurse. It was in a pitiable condition. I told the mother I had never saved so young a child in that condition, but if she would let me apply ice to the swelled glands, I thought it could be saved. She assented. Lumps of ice were lapped in two thicknesses of old wet muslin and held in place by the "helps" all night. There was striking relief. In a few hours the child could swallow and it was evident from its quiet condition that the remedy was most agreeable. The means were continued, and in a few days the little patient was well.

From that day to the present time, in scarlet fever and in diphtheria, when the tonsils and subjacant glands were inflamed and greatly swollen, I have used ice freely and with gratifying success.

Wherever inflammation exists in a part accessible to the ice, as in the cases named, as well as in pleurisy, peritonitis, pneumonia, and in traumatic inflammations, it can be held in check—utterly subdued—by the proper use of ice.

I may only call attention to the valuable results produced by the cold treatment of typhoid and other fevers. In the hospitals of Germany the death rate has been reduced to one per cent. In this country the cold treatment, as used by Brand in Germany, is equally successful, and is becoming common practice in hospital and even in private practice.

I must close, though with your permission I will be glad to add a few words, as it is not probable that I shall ever again speak on this subject.

Is it true that for sixty years I successfully treated every case of measles under my care, by the use of cold water to reduce the temperature of the body?

And that for almost sixty years I used the same means to allay the excessive fever so common in scarlatina? And that since 1850, I have used the cold treatment in all cases of diphtheria with, as I believe, much better results than those obtained by others with any other kind of treatment? And is it true, as I declare it to be, that this most efficient means of reducing the abnormal heat of the system and the consequent suffering of the patient, does not exclude the use of medicine to aid in the treatment? Or have I given false testimony? Is it true that typhoid fever, for the last half century so greatly dreaded and so fatal, has been by the cold bath treatment of Brand, reduced to one per cent. mortality; and is now, in our county, in both hospital and private practice regarded as the best mode of treatment, not only in the disease named but in all febrile conditions; or have the eminent men why have reported on the subject, done so falsely?

It we have all spoken truly, why shall not our physicians of to-day resort to this means of reducing the fever and discomforts of the suffering patient, inasmuch as the cooling treatment does not preclude the use of their favorite medicines?

Should they do so, I feel confident that we would never again see three or more children swept, in a single week, from one family, as has so frequently occurred this past winter in the region around, under the treatment in vogue.

But I am confronted by reports in medical journals in which the writers state that they have tried the cold or cooling treatment in diphtheria and even in scarlet fever, and did not find it efficient. I can readily believe it. Many have made such reports and the reports have been placed on record. But there are also many scattered over this State and over our whole country, who give strong testimony in its favor. The objectors to it are those who have never used it, and those who prescribe for the *name* diphtheria and not for the disease itself. To them the affection of the nervous system, sickness of stomach, inflammation of the tonsils, submaxillary glands, the pharynx and larynx, signify nothing. They have a treatment "good for diphtheria." Enough for them to know.

But there are some who have tried the cooling treatment with a desire that it should succeed, but who did not find it so efficient as had been reported. There are many honest reports of this kind, and the hopes of success were defeated by the inefficient application of the means by those in attendance on the patients. We well know that if the cold water and the ice be not in close contact with the inflamed, heated part it cannot have an effect to subdue the heat or allay the inflammation. Take for example a highly inflamed breast; hold the ice but the width of a knife-blade from it and it will be found utterly useless, as useless as if put around the bed-post. Many physicians have been thus deceived. Unless the most positive directions be given, and the nurse shown how the means should be applied, failure must result.

In the application of the ice to the swelled and inflamed tonsils and glands, and to the fore part of the neck when a diphtheritic exudation is taking place in the larynx and trachea, the ice should be mashed and closely fitted to the part affected. Often have I seen the bladder or cloth holding the ice, hanging an inch or two, or even more, away from the parts affected, instead of being closely fitted to them. The physician cannot stay all the time with the patient, and the nurse, regarding the ice not as the treatment but as merely an aid to the medicine, gives it but little attention.

I am desirous to reach the truth on this subject; to know whether the present fearful mortality is owing to the present erroneous belief that the fever is due to the increased activity of the heart, and the principle of treatment is to subdue the fever by the use of arterial sedatives—the treatment which results so disastrously.

Whatever may be the cause of the fever, whether the little entity called microbe (millions of which are always with the healthiest of us), or any other cause, we know that the fever is the cause of the increased action of the heart, and that there are no means of reducing the high temperature—the fever—so efficient as the application of the means to which I call attention, and which I have tested for more than half a century.

In the hope that a treatment less fatal than that now in use will soon prevail, I leave the subject with you.

Empress Carlotta's Death Caused by Poison.

According to a story now going the rounds of the press, and credited to "Gen. Rudolfo Gunner, commander of Maximilian's body-guard during his brief and troubled reign as emperor," it was not adversity that drove his empress insane. She was poisoned by an old Indian woman who had been hanging about the palace begging alms, and in this way gained the opportunity of giving her the decoction of *talavatchi*, a poison described as "more dreadful in its effects than anything in the sinister pharmacopeia of the medicis." Given with skill, it kills the mind and leaves the body to live on unimpaired. In large quantities it produces hallucinations, followed by unconsciousness and death. The *talavatchi* given the Empress was judged to a nicety. It wrecked her mind, but left her body healthy. Outside of flowers the world to her does not exist. The love of home, country and friends passed away after the draught of the Indian witch's decoction.

"The administration of this poison," says General Gunner, "formed one of the sciences of the ancient Aztecs. Their descendants, who are the peons of Mexico, have preserved the knowledge, and in their hands it becomes a dangerous and subtle weapon. It can be given in coffee in small quantities day by day, and the victim will gradually become insane or an epileptic, or both."—*N. Y. Med. Times.*

TRACTION DIVERTICULUM OF THE STOMACH COMMUNICATING WITH THE PANCREATIC DUCT.*

HEINRICH HEUBEL, ERLANGEN, GERMANY.

The case reported is one of Professor Bostroem's, observed at Erlangen in 1878, and is published by permission.

The well-known studies of Von Zenker have shown that traction diverticula of the œsophagus begin with an inflammation of some extra-œsophageal tissue, usually a lymph node, which becomes adherent to the œsophagus. The subsequent cicatricial contraction almost inevitably produces a pouching out of the œsophagus, since the inflammatory mass is usually firmly anchored to other deeper tissues. The same process may occur with other hollow organs, especially with the intestine on account of inflammation of the gall bladder, with resulting fistula.

Although the lymph nodes lying behind the stomach and the pancreas lying beneath it, might, *a priori*, be expected to produce the same lesion of the stomach, the following case is the only one which the writer has been able to find reported.

The patient had been confined for a few weeks at the District Insane Asylum at Erlangen. For twelve years, he had been excitable and anxious and had suffered from insomnia. These symptoms had been exacerbated by an attack of erysipelas of the head two years previously, and had increased notably in the last year of his life. The patient was kept in bed with difficulty, and was always unclean in spite of the precaution of placing him frequently on the commode. He took only liquid nourishment and would spit out all solid food, especially meat. He was very thirsty and drank soup containing egg and a cognac mixture eagerly. After a brief improvement had set in, the patient again had an appetite for bread, though he digested it slowly; but always had an antipathy to meat. Collapse, with tracheal râles, occurred suddenly while the patient was on the commode, and death resulted in a few hours.

On section, there was found considerable hyperostosis of the skull; marked hyperæmia of the brain, with thickening and cloudiness of the meninges; chronic hæmorrhagic pachymeningitis of mild grade, and chronic hydrocephalus. Hyperæmia and œdema of the lungs, which were decidedly emphysematous, and bronchial catarrh were, apparently, the ultimate causes of death.

From the third to the eighth rib, on the left side, there was an old united fracture with a cushion-like thickening on the inner side. The fractures were almost in line, two or three centimeters from the attachment of the cartilages. The left lung was adherent to the costal pleura in the greater part of its extent. The mucous membrane of the throat was pale; that of the œsophagus, in the lower half, was somewhat congested venously, and was beset with numerous little warts.

The stomach was contracted and contained only a little watery fluid with flocculi of mucus. The mucous membrane was covered with an abundance of soft grey mucus, was slightly injected, was finely mammillated (*gewulstet*) and thickened, and, in the neighborhood of the lesser curvature, on the posterior wall, it was quite coarsely mammillated. The submucosa and especially the muscularis, were so thickened that the whole organ felt stiff. About the middle of the lesser curvature, somewhat more toward the pylorus and the posterior wall, was a funnel-shaped diverticulum of the mucous membrane, whose opening into the cavity of the stomach had a diameter of five or six mm. The thickened and puckered, but nowhere cicatrized mucous membrane, was gathered into exquisite folds. Through this opening into the fistulous canal, a probe passed obliquely to the right, posteriorly and superiorly, to a depth of four cm.

After careful preparation, the diverticulum showed on the outside, a beautiful infundibular prolongation of the stomach wall, one cm. in length, the apex being

*From the German Archives for Clinical Medicine, Volume 55. Translated by A. L. Benedict, A.M., M.D., Lecturer on Digestive Diseases, Dental Department, University of Buffalo.

firmly united with the pancreas. The outer, longitudinal muscular fibres were sharply defined at the neck of the diverticulum, but did not extend farther; the internal circular fibres, on the contrary, extended to the apex of the funnel where it was adherent to the pancreas. With the probe one could easily penetrate through the diverticulum and into the pancreas, reaching what proved to be the pancreatic duct.

The pancreas was strikingly deformed. Though of normal length (20 cm.), it was slender and flaccid, and measured in breadth 2 cm. at the tail; 1.5 cm. in the middle, and was only 5 mm. in thickness. At the head it was irregularly bossilated. Except at the latter part, which will be described subsequently, it was extremely flabby. In the center was to be felt a tough cord. At both sides of this a number of firm, elastic kernels of various sizes, up to that of a small pea, were palpable. The parenchyma consisted of very soft and flaccid discoid lobules, loosely attached one to another. On section most of these were shown to be encapsulated masses of adipose tissue; a small number consisted of pale gray and flabby parenchyma. The firm, elastic kernels which were scattered in the tissue like shot, revealed, on section, little gelatinous bodies (literally corks), which left behind smooth-walled cavities of corresponding size.

On incision, the cord which was palpable in the midst of the pancreas, proved to be the duct of Wirsung. In its peripheral part, 11 cm. length, in was considerably and pretty uniformly dilated, measuring 12-13 m.m. in diameter. Its wall was greatly thickened, up to 1 m.m. It was very stiff; the inner surface was opaque, cloudy, pale-gray but perfectly smooth. The mouths of tributary ductlets were not expanded; for the most part they were contracted or closed. The cavities filled with gelatinous matter, already mentioned, could not be emptied into the pancreatic duct by pressure. After the course of 11 c.m., the duct of Wirsung became again narrower toward its mouth, and here, for 3 c.m., its breadth was only 7 m.m. Its wall, however, was still more markedly thickened, and the inner surface was not only thickened and opaque, but lined with irregular white scars. Between the wider and the narrower portions of the pancreatic duct, to the right and upward, there was a slit-like fistulous opening, 5 m.m. long and 1 m.m. wide. Into this extended shining lines of scar tissue from the inner coat of the pancreatic duct. Through this opening the probe passed immediately into the adherent gastric diverticulum.

On the farther side of its narrower and scarred portion, the pancreatic duct again became quite suddenly broader and, for a length of 2 c.m., it had a diameter of 17 m.m. By pressing on the surrounding tissue a clear, thin mucus was forced out from the finer branches of the duct. From this part of the duct, a cavity of the size of a hazel nut was reached, surrounded on all sides by the thickened pale-gray, cloudy, opaque, moderately smooth, scarcely cicatrized and, in part, finely papillary mucous membrane of the duct. Around this cavity was tough connective tissue, enclosing above a completely isolated cavity as large as a cherry pit. From this was evacuated a clear mass of mucus. The inner wall of the cyst was unevenly villous.

Around the cul-de-sac of the duct of Wirsung, involving the head of the pancreas and fitting into the concavity of the duodenum, lay a tumorous mass, tough and almost as large as the fist. This consisted of numerous tense cysts, thickly crowded together, and varying from the size of a pin-head to that of a hazel nut. These were uniformly filled with clear transparent, gelatinous matter, and limited by a very thin, smooth, translucent membrane. The intervening structure was of tough connective tissue. After evacuating a large number of the transparent masses, the tumor had visibly decreased in size, and there now remained larger cavities with similar contents, connected with the pancreatic duct, especially with that part of it which had undergone cystic dilatation. Through the latter, the probe led through an opening 1 cm. long, 2 mm. wide, into a cavern 22 mm. long and wide, and 7 mm. in height. This was almost entirely filled with a mass of mucus, partly clear and translucent, partly whitish and opaque. The wall of this cavern was very uneven, marked in spots with greyish-white scars, and presented numerous mammillations. The wall of the pancreatic duct ceased at the entrance to this cavern with a sharp scar-like line of

demarcation. From the cavern there was an immediate communication through a round opening as big as a pea, into the beginning of the lower, transverse portion of the duodenum. From an upper pouch of this same cavity, the probe passed also into the descending portion of the duodenum, emerging in the vicinity of the mouth of the ductus choledochus.

From the cystic dilatation at the end of the pancreatic duct, there was a passage, nearly in line with the duodenum, into a cavity the size of a cherry, which was distended with thick mucus and lined with a membrane grayish-white and slate colored. From this, through a hole the size of a cherry-pit, there was a passage into the desceuding portion of the duodenum. From the same cavity there were three other passages into the duodenum; the first leading into the the duodenum at the junction of the superior transverse and the descending portions; the second, into the superior transverse portion; and the third into the same about 1.5 cm. from the pylorus.

The part of the duodenum involved, 6 cm. in length and 3.5 in breadth, was driven upward by the tumor, and was covered with very adherent, soft, clear mucus. After cleansing this away, the mucous membrane appeared everywhere pale, and the surface was very uneven on account of the pressure of the tumor. The mucous membrane extended to the bottom of the depressions, and here were found the various fistulous openings already described. From this side they appeared still more numerous. Some were pervious for a coarse probe; some, for the tip of the little finger. The mucous membrane passed pretty deeply into some of the broader openings, and was sharply demarked from the cicatricial tissue that took its place. Immediately beneath one of the wider fistulæ, the ductus choledochus opened. This duct was dilated in its whole course up to a diameter of 2.5 c.m. Its wall was otherwise normal and soft.

All these numerous small and large fistulous openings, which were found from the immediate vicinity of the pylorus to the lower transverse portion of the duodenum, were closed by a dendritic growth of vascular villi. The villi were over a centimeter long; some slender, others broader. Laying these back, the fistulous openings became visible, and it appeared that the villi surrounded the margins of the fistulæ like a wall, and, in places, even grew from the mucous membrane that extended into the fistulæ. The exuberance of villi seemed to be limited to the area of fistulous openings. In the descending portion of the duodenum, however, where several fistulæ were located along with the opening of the ductus choledochus, there were greater superficial expansions of villi, and more careful examination showed that the mucous membrane between the fistulæ was much undermined and elevated into bridges, and that, in such places, finer fistulæ opened into the larger ones.

The entire lymphatic system in the neighborhood of the pancreas, was normal.

The gall bladder was distended with thin, pale, orange-colored bile, in which were swimming a number of soft, compressible, brownish concretions.

The liver was atrophic but otherwise normal.

Common Membranous Sore Throat.

The correctness of the position taken by Professor J. Solis-Cohen, Sir Morell Mackenzie and other authors, as to the existence of *membranous sore throat, not diphtheric in character*, has come to be universally admitted, and the claims advanced for certain methods of treatment in diphtheria proved to be based upon erroneous diagnosis. A recent illustration of this fact has come under notice at the Laboratory of Bacteriology, where cultures from three cases of membranous sore-throat, much resembling diphtheria in appearance, in two of which there was high fever accompanied with constitutional depression, proved to be free from Klebs-Loeffler bacilli.

Hemoptysis.

For the medicinal treatment of hæmoptysis, in pulmonary tuberculosis, Prof. S. Solis-Cohen prefers calcium chloride to any other drug.

The pure crystalized salt is specified on the prescription, so that chlorinated lime shall be dispensed. It is given in glycerin or simple elixir and water, or in infusion gentian, 10 grains to the teaspoonful; the ordinary dose in the active stage of the hemorrhage being 10 grains or 15 grains every second hour. As improvement takes place the frequency of administration is reduced.

AN HISTORICAL SKETCH OF DIABETES MELLITUS.

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Diabetes was one of the few diseases that was distinctly recognized and described by the ancient fathers of medicine. Some of the various names under which it has been described in the classics are quite curious, viz.: *Hydrops matellæ; profluvium urinæ; fluxus urinæ; morbus sitibundus; diarrhœa ad urinas; dipsacon;* etc., etc.

Hippocrates makes no mention of the disease in his works, but Theophilus, Actuarius, Aretæus, Aetius, Trallianus, Avicenna and Galen, besides many others, have written largely upon the subject of diabetes.

Now comes the question whether many of the cases mentioned by the classic writers were true cases of diabetes. There can be no doubt that some of the cases described were true cases of diabetes mellitus. Let any one read the description of this disease given by Aretæus and he will marvel at the pen picture that this great observer has made. Of course, Aretæus was describing a case of true diabetes and giving all of its symptoms, which were the same then as now, without being aware of the saccharine nature of the urine, for this was a fact that was discovered centuries later. And such must have been the case with all the writers who preceded and followed Aretæus up to the time of Willis, the discoverer of the true diabetes mellitus, in the time of Charles II.

A number of the cases that have been described are, indeed, doubtful cases of true diabetes. Scribonius mentions a case where the quantity of urine passed by a patient was four times the quantity of liquids that was ingested. The case published by Sir Kenelm Digby, of the nun at Rome, who for some weeks passed more than two hundred pounds of urine in every twenty-four hours, must be taken *cum grano salis.*

Galen, Lib. vi. aff., cap. 3, states that he saw diabetes but twice. Diabetes as Riverius knew it, "is a quick and plentiful sending forth of drink by urine; after which there comes a violent thirst, and consuming of the whole body."

As stated above, Dr. Thomas Willis, who lived in the time of Charles II., was the first physician who positively noticed the saccharine nature and honey-like taste of the urine in the true diabetes.

Van Helmont, long before Willis's time, had said that the blood of a diabetic patient is changed to a whey-like urine. "Atque in diabete totus cruor mutatur in lotium lacteum."

Sydenham says:* "It sometimes happens, though very rarely, that the aged, after having been long afflicted with an intermittent, and weakened by improper bleeding and purging, are seized with a *diabetes,* though the intermittent be perfectly cured."

Dr. Cullen also found saccharine urine after a long fever in an old man.

Mr. Morton has given the case of a master wheeler, whose father had lost all of his male children with a consumption following a discharge of saccharine-tasted urine during dentition. Guidott, while he was a student at Oxford and only eighteen years of age, attributed the saccharine nature of diabetic urine to an imperfect assimilation of the chyle.

The following are some curious cases of diabetes collected by Dr. Thomas Girdlestone, A.D. 1799: "Avicenna remarks that the eating of quinces brings on diabetes. Dolaeus relates the case of his uncle who, in one night's time, brought on a diabetic discharge by the drinking of cider. John Baptist: Theodosius says he had seen the true diabetes only in two women, which disease they had induced by the abuse of Roman wine. Dr. Home knew the chylous species of diabetes 'brought on by too frequent doses of jallap et mercur dulc.'"

Dr. Falconer observes that the Japanese are subject to diabetes and atrophy from the use of tea, and that he knew a man who induced a diabetes by the drinking of spruce tea. Mr. Charles Darwin thought that diabetes was caused by the retrograde

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* Vide Swan's Sydenham, p. 313.

motions of the lymphatics from their valves being diseased. Dr. Rollo thinks, "a morbid condition of the stomach, and a general diffusion of saccharine matter, with probably some change from that of health in the fluids of the system, are the immediate causes of diabetes."

Dr. Benjamin Rush, when asked by William Washington of Alexandria, Va., a student at the University of Pennsylvania who was about to prepare a thesis on diabetes, what his theory of diabetes was, replied:—"Diabetes consists in a morbid or irregular action in the whole sanguiferous system, or in other words, it is a state of fever accompanied with a local determination to the kidneys. This is evinced by its being attended with all those symptoms which are usually the consequence of other febrile states of the system; viz.: pain, increased action of the pulse, thirst, increase of heat, and a flushed countenance. These are all inseparable from it, and it must be acknowledged that they are the effects of febrile action." In all of the cases of diabetes that Dr. Rush attended, the pulse was found to be full, tense and quick.

Diabetes mellitus, as we now know it, is essentially a chronic affection, and a disorder of nutrition characterized by the constant presence of grape sugar in the urine and the blood; added to which there is an excess in the urinary discharge, together with the progressive loss of flesh and strength.

COMMUNICATIONS.

THE PSYCHOLOGICAL ASPECT OF HYPNOSIS.

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The theories, psychological and physiological that have been proposed to account for hypnosis, are very nearly as numerous as the theorists, and not one has met with universal acceptance. Yet we are by no means relieved of the responsibility of framing hypotheses. Scarcely ever has a great scientific generalization been established that was not constructed out of the ruins of a thousand hypotheses, and unless those thousand hypotheses had been devised, tested, and successively found wanting we would never have had the material out of which to construct the true explanation. It is in this light that I regard the theory which I shall advance.

It is based upon the facts of hypnosis chiefly as observed and reported by the school of Nancy, which my own limited experience has in every respect confirmed, and is most nearly akin to that of Dr. Despine. It is an effort to bring the facts of hypnosis into line with the psychological doctrine of the dynamic mental state; a doctrine, which was, I believe, first taught clearly by Herbart, but for which a satisfactory scientific foundation has been but recently supplied by the researches of neurologists into the functions of the cerebral cortex. Scanty and disputable as our knowledge on these points is, there is a substantial agreement between the main results of introspective observation on the one hand and clinical observation and direct experiment on the other, which is exceedingly encouraging.

One will readily understand that within the limits of this paper I can do no more than state and make plain the leading features of the tentative theory upon which I am now working. It is a theory that brings the chief phenomena of hypnosis into harmony with fundamental psychological principles and with the fundamental principles of cerebral physiology as far as I understand them, but which must undoubtedly suffer extensive modification as our knowledge of mind and brain progresses. I shall, however, in concluding, point out some of the dangers attending the practice of hypnotism and say a word as to the relation often supposed between hypnotism and telepathy.

It has long been known that certain in-

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dividuals can be put, by the use of definite agencies, into a condition closely resembling sleep, but differentiated from it by sundry traits. These agencies are numerous, but all agree in involving the checking of the train of ideas, the restriction of attention to one idea or sensation, or to a constantly recurring but narrowly limited series of sensations, such as is given by passing the hands before the patient's eyes, by light touches or stroking, by rotating the head upon the shoulders, and so on. After the lapse of a time that varies in different individuals from a few seconds to thirty minutes or more, phenomena closely resembling sleep supervene. The eyelids become very heavy; they close; the field of consciousness becomes narrower and narrower, wanes and finally disappears. When the patient awakes, he believes that he has been asleep. But we can show that he has not been asleep in the ordinary sense of that word. He is nearly always cataleptic; his limbs tend to retain any position impressed upon them by the operator. He appears to be keenly alive to all that the operator says and does, but has neither eyes nor ears for any one else. This is the so-called phenomenon of *rapport*. He is frequently partially and sometimes totally analgesic. Pin-pricks and pinches are felt as touches, and burns as warmth. Sometimes, although not as often, he presents hyperæsthesia of sundry senses. He can read fine type at a considerable distance, can hear sounds that he cannot hear in the normal state, or can distinguish the compass points when very near together. But the most marked and most constant symptom is his absolute obedience to the word and wish of the operator. If told that he cannot open his eyes, cannot bend his arm, he cannot. If told to open his eyes, he opens them; if told that an elephant, a ghost, or anything else you please is before him, he sees it; and similar hallucinations can be produced in all the other senses. Negative hallucinations can also be produced. The operator can by a word destroy sight, hearing, touch and other senses, or can make the patient blind to one object or person, deaf to one sound, or the voice of one person. Nor is it necessary that the suggestion be executed while the patient is in this abnormal condition. It may be executed hours, weeks, or even months afterward. Sometimes the patient passes spontaneously while executing it into the condition in which he was while it was given, and he is then usually not aware that he has done it. Sometimes he does not so relapse, but executes it in his normal state, and then he will often devise all manner of plausible pretexts for his action —anything, indeed, will he allege except the true reason, and that he rarely suspects. Finally, and this is a most characteristic symptom, no matter how deeply he appears to sleep, he can nearly always be awakened by a word. If I leave the patient undisturbed for a time while thus apparently asleep, all these phenomena usually disappear. He is no longer cataleptic, analgesic, hyperæsthetic, or suggestible; he is no longer *en rapport* with the operator, can no longer be awakened by the simple command; in other words, he is truly asleep in the ordinary sense of that word. Sometimes, however, if left to himself, he will awaken spontaneously, and no evil effects follow. He may feel a slight drowsiness, lassitude, or chilliness, such as we often feel when awakened from a nap, but nothing of a more serious nature need be feared.

I have described to you the hypnotic state in its most marked form—that which is known as deep sleep, or lethargy. About twenty per cent. of all normal and healthy adults, if we accept the conservative estimate of Dr. Doll, can be put into this condition. Of the other eighty-odd per cent., about twenty or twenty-five per cent. are not at all or but little affected by the agencies which I have described. A slight drowsiness and weight in the eyelids they will probaby feel, but no more. The remaining fifty-five or sixty per cent. are affected in various ways and to various degrees. Hardly will any two individuals present exactly the same phenomena, and scarcely any two writers agree upon the degrees that are to be recognized. Dessoir recognizes two, Charcot three, Forel three—but his three do not coincide with those of Charcot—Liebeault six, Chambard six, Bernheim nine, etc. Of these, the two proposed by Dessoir seem to me worthy of note. In the first grade only the power of originating voluntary movements is affected. Consciouness remains undisturbed, but the voluntary muscles are more or less withdrawn from voluntary control. The smaller and more high-

ly specialized groups, such as those controlling eyes, lips, tongue and fingers, are the first to be affected, then the larger groups. Suggestions affecting these muscles will then be executed, but hallucinations cannot be produced, nor will post-hypnotic suggestions be executed. In the second grade both the sensory and motor systems are affected and are subject to the suggestions of the operator. This is usually found in lethargy, but frequently without it. In the first grade only the functions connected with the efferent nerves are affected, in the second those connected with the afferent as well.

It is agreed by all observers that the most characteristic trait of hypnosis is the heightening of suggestibility. To this, catalepsy, automaton-like obedience, and the production of hallucinations can be reduced. Spontaneous analgesia and hyperæsthesia cannot be reduced to suggestibility unless the operator has carelessly dropped some remark in the presence of the patient indicating what he expects to find; yet in explaining suggestibility we shall, I think, find the clue to the explanation of these phenomena also.

Suggestibility is found in all normal individuals. Volumes have been written in illustration of the fact that the mere lodging of an idea in a man's mind is of itself a certain momentum tending to affect his action. It may take root and grow, or it may seem to have fallen upon barren soil and produce no effect. The world-wide phenomena of unconscious imitation, the influence which we unconsciously receive from our surroundings and exert upon one another, the curious epidemic manias of the Middle Ages, the periodic epidemics of crime, of which we have recently had several, all these are illustrations of the fact that the suggested idea is a momentum that has its own weight, which may indeed be overpowered, but which must always be taken into consideration. Now, in all degrees of hypnosis and in many conditions not classed as hypnotic the force of the individual idea is greatly exaggerated. In the most extreme cases it is no longer one of many momenta; it is the controlling power which seems to fatally determine what the man shall do, and even what he shall see and hear. Of such a man we say that his suggestibility has been heightened.

The explanation, therefore, of hypnosis, from the point of view of the psychologist, turns chiefly upon the explanation of suggestibility, and upon that we must for the present concentrate our attention. If suggestibility is characteristic of the normal man, its explanation must be found in the fundamental laws of mind and brain. We must then determine what conditions limit suggestibility in the normal state, and in what way we may remove these conditions and heighten it.

I must ask indulgence for a few minutes as I leave the problem of hypnotism proper and endeavor to sketch the main outlines of psychological theory or method which we find to-day very wide-spread among neurologists, and rapidly gaining ground among those pyschologists who bring to their proper work some acquaintance with physiology and pathology. According to this view all mental states are accompanied and conditioned by physical processes in the cerebral cortex. Upon this there is substantial agreement, and it may be regarded as the fundamental postulate of physiological psychology. Its converse, that every cortical process is accompanied by a mental state, is still disputed. If we admit this fundamental postulate, we are compelled to admit its corollary also,—that all the laws that govern mental states must admit of expression in physiological terms. And this corollary is fully borne out by the facts, as far as we are able to observe them. We must, then, learn to look upon the mental state precisely as we look upon all physical things. Scientific research in the physical world resolves itself into an inquiry into the causes and effects of phenomena, and the case is not otherwise in the mental world. The mental state must have its cause and its affects as certainly as the processes with which it is connected must have their causes and their effects. Its causes and effects need not form clearly distinguishable portions of the warp and woof of our conscious life. They may lie in the dim region that we call subconscious; but they exist, and if our knowledge were exact, we could reason to them deductively with infallible certainty. Now, when we examine our mental states narrowly, we find that even in all the complexity of consciousness we can frequently trace out their causes and effects. Let us examine a few of these cases.

Every mental state is susceptible of development. Its dimmest and least de-

veloped form is that of the nascent idea just emerging into consciousness. Its most developed form is found in the vivid sensation which is qualitatively like that idea. This intensity is primarily determined by the intensity of the central or centripetal stimulus by which the corresponding cortical process is awakened; but it also depends upon the cerebral constitution of the individual and upon sundry other conditions.

Mental states have effects. Their ideational effects have long been known to psychologists, and studied under the name of association of ideas. I need do no more than allude to this common phenomenon of subjective life. They have also motor effects. The relation of the vaso-motor system to the mental state is no new discovery. The blush of embarrassment, the pallor of fear, fainting at the sight of blood, are trite illustrations. Recent investigations have shown, however, that the connection between mental states and the distribution of the blood-supply is of the most thorough-going nature imaginable. Mental states also effect the voluntary muscles directly. To Alexander Bain belongs the honor, I believe, of having first established the relation of the motor idea to the production of the movement which it represents. The effect exerted by mental states upon the secretions of the skin, upon the salivary, mammary, and other glands, is a matter of daily observation; but their effect upon the processes of nutrition and repair is by means as common or as universally admitted. Yet it seems to me that we have sufficient experimental as well as clinical evidence to warrant our admitting the existence of such effects, although we do not as yet understand the nervous mechanism by which they are produced or the conditions under which they operate.

Not only have mental states positive, they have also negative effects. These negative effects are generally grouped under the the term "inhibition." They are exceedingly obscure. The development of any mental state seems to affect unfavorably the development of simultaneously nascent but independent states—a phenomena commonly treated by psychologists under the title "passive attention." Individual sensory states sometimes seem to arrest one another directly, perhaps by a species of interference. Motor states can certainly check one another. Into these and kindred questions I shall not at present enter. I have, I hope, said enough to illustrate the fundamental law of which I speak—that mental states, representing to us cortical processes of whose precise character we are wholly ignorant, must be regarded as belonging to the orderly system of nature quite as much as those cortical processes with which they are connected, and that we are entirely justified in ascribing to them those dynamic characteristics, those causes and effects which we ascribe to all physical phenomena. And into those characteristics, causes and effects it is the business of the psychologist to inquire.

It is evident that in an inquiry into the causes of any such state or process we must go over very much the same ground as we have gone over in dealing with its effects. It may be caused *ab intra* by the operation of such antecedent states and processes as I have just described, or it may be caused *ab extra* by some such perception. In general we term all states originated from without, "suggestions;" and those originated from within, "auto-suggestions." Of all the agencies by which I can originate an idea in the mind of another, none is as certain and as definite as language. Hence we commonly think of the suggested idea as having been suggested by words; but this is only accidental, not essential.

We have now completed our rapid survey of the dynamic mental state regarded as representing to us a cortical process. But it is evident that I have been presenting rather rare phenomena as illustrations of what I conceive to be one of the most fundamental laws of consciousness, and one may justly ask why this law, if it be ever operative, has so long escaped attention. The answer is not far to seek. If only our mental states existed singly, and each were free to develop itself and work out its own results without prejudice to or from other states, there would be little difficulty in determining what those results are. But in all normal states of consciousness the nascent mental state or cortical process finds itself in the midst of countless other subnascent, nascent, or definitely developed states, which it must modify, and by which it must suffer modification in countless and infinitely complex ways. It is, therefore,

very difficult in the normal state to isolate any state sufficiently to distinguish its results from those of others.

Moreover, there exists in consciousness an activity of which the would-be scientific psychologist, anxious to bring all mental phenomena under mechanical or dynamic laws, usually says as little as he may. And certainly at our present stage of knowledge it is impossible to analyze it into any component factors or to determine the laws of its operation. Yet we cannot well ignore it, since it is the most powerful single factor of conscious life. This is what we call the consciousness of self. Sometimes it appears to be latent, and the man reacts upon the stimuli presented to him with almost fatal certainty. But then, again, it appears, and forthwith introduces into the train of ideas and movements an element of capriciousness that was not there before. When it is thus present and exerts its influence over our actions we are said to act voluntarily. The character of this conscious self is largely determined by heriditary influences. But it is also genetically related to the permanent factor in past experience, and may even be described as a function of that permanent factor, since any extensive changes in the latter are sooner or later followed by changes in the consciousness of self. We are, I think, justified in believing that in this at present mysterious inner activity we see the present conscious representative of the net aggregate result of our own past experience, and to some extent that of our ancestors, confronted with and acting upon the nascent and mental state.

We are now in a position to form a more clear conception of what is meant by suggestibility and to point out the chief factors that normally limit it. When we say that suggestibility is characteristic of all men, we mean that any mental state tends to develop to a certain degree and to produce certain definite results. This tendency is not, as a rule, very noticeable, for two reasons: in the first place, any given mental state is but one of many, and we can rarely separate its results from those of others; and in the second, it is always exposed to modification by the most powerful and least understood element of consciousness—the self. I have also tried in passing to indicate those physiological conceptions to which this psychological theory is most nearly related, and, if there be any truth in them, it is evident that the condition which we find in the normal man implies an inconceivably complex inter-correlation and functional coördination between the several portions of the cortex and between the organized systems of processes which we must conceive as existing within it.

Under what conditions, then, does suggestibility become heightened? Heightened suggestibility is found occasionally as a spontaneous phenomenon. Pierre Janet has, for example, a patient who is as suggestible in the waking state as most persons are in hypnosis. She has never been hypnotized. It is sometimes found as one of the effects of certain drugs, among which are alcohol, ether, morphia, and chloroform. More light is much needed upon the question. Many dreams are due to the suggestions given by strong stimuli, which penetrate to the brain and arouse smouldering cortical processes, which pursue their devious ways unhampered by the restraints of waking life, hence the frequently grotesque and unreal character of dreams. It is sometimes possible to cause a person to pass from normal sleep into a condition of heightened suggestibility that cannot be distinguished from hypnosis. An analogous state frequently occurs spontaneously, and is known as somnambulism. But of all the means of heightening suggestibility with which we are acquainted, none is as easy of application and certain in its effects as the concentration of attention and limitation of the conscious field; and those effects are, so far as the subject can describe them, precisely what our study of normal conditions has led us to postulate as the chief requisite to the production of heightened suggestibility. Sometimes the entire field of consciousness appears to fade away. Then we may suppose that the only things in consciousness are the isolated ideas which the operator suggests. In others the definite heterogeneity of normal life gives place to a dreamy state in which the vivid self seems to have retired from the field. In others the self-consciousness remains, but finds itself so weakened that the commands of the operator appeal to it with irresistible power. This enfeeblement or destruction of the self is the most characteristic phenomenon of hypnosis, and is the chief

reason for the heightened suggestibility. The nascent mental state finds the chief obstacle to its independent development removed, and we can study that development and its effects under new conditions.

We must not, however, assume that the development and effects of the mental state in hypnosis are what they are in normal life, or what they would be in normal life were we able to remove other influences without in any way modifying the intrinsic character of the state which we wish to study. The checking or stilling of self-consciousness is the most characteristic change of hypnosis, but it is by no means the only change; and the other changes which are found in different subjects are so numerous that it is impossible to describe them. One of the most common symptoms is what may be described as a species of mental inertia. An idea which in the normal state would awaken a mass of associated ideas, and thus give birth to a long train of ideas, will fall dead and inert in the hypnotized mind; it seems to have spent its energy in getting to existence. But occasionally the exact contrary is observed. A mere hint from the operator lodging in the sensitive brain of the subject will be spontaneously developed into a tragedy or comedy, as the case may be, and be acted out with a vivacity and power of which the normal individual would be incapable. In these and other personal peculiarities, such as the spontaneous analgesia and hyperæsthesia which I have mentioned, we may recognize variations in the distribution of cerebral activity of whose exact character we cannot form even a conception, and which doubtless rest upon organic and dynamic peculiarities in the cerebral constitution of the individual.

What cortical modifications are we to conceive of as taking place in hypnosis? This is a question that is more easily asked than answered. I think we may say with some confidence that the normal cortical co-ordination of waking life is profoundly modified. This is indicated by the inhibition of the activity of the conscious self and the spontaneous alterations in sensation. But if we ask further just what portions of the cortex are chiefly concerned in this modification, it seems to me impossible even to propose a theory. We do not know whether the voluntary activity of the self is definitely related to some cortical area, as the various special senses are, or whether it is related to some cortical layer as supposed by some, or whether it is related to some organized system of processes distributed through the entire cortex. And as this is the physical activity which is most profoundly modified in hypnosis, we may suppose that those portions of the cortex which are concerned with its manifestation are those chiefly modified in hypnosis. Yet, as I have shown, we have reason to suppose that other changes take place whose exact character we do not know at all. If, however, we ask to what other changes this modification of the processes connected with the manifestation of self-consciousness are most nearly related, I think we may say with some confidence that they are most nearly related to the changes that normally take place in sleep. In normal sleep the continuous ebb and flow of molecular change that accompanies waking life slowly and regularly comes to a stop. Some little may remain in various portions of the brain, but it is for the most part in a state of comparative quiescence. In hypnosis we have reason to think that a similar stilling of the molecular activities begins to spread throughout the brain. In some way which we cannot now explain, the fixation of attention and voluntary limitation of the conscious field inhibits the activities connected with the conscious self first. If we leave the patient to himself these activities will either reassert themselves, or else the same change will spread on throughout the brain until the patient is in a normal sleep. And in the case of some persons this is the only effect that we can produce by the use of the agencies which induce hypnosis in others. But if we do not leave the patient alone, but give him suggestions, we find that a large portion of the brain remains sensitive, that induced mental states or cortical processes —for some authorities contend that cortical processes in the hypnotized patient are not accompanied by any kind of consciousness—work out results which cannot be obtained in the patient while in the normal state. Hence hypnosis is in a sense a normal state artificially prolonged. It would, perhaps, be too much to say, with Mr. William James, of Harvard, that we all pass through the hypnotic state every night while going to sleep. It

seems to me probable that the methods which we use to produce hypnosis have a specific effect in determining the order in which the cortical activities are to sink into sleep, so to speak, which is not found in normal sleep. Yet the changes which take place in hypnosis probably do not essentially differ from those of normal sleep.

The phenomena of the hysterical condition, of epilepsy, of sundry forms of insanity, and of the rare trouble known as double consciousness, present many points of similarity with hypnosis, and we shall probably not be far wrong in classing all together as being due to derangement of cortical co-ordination. Sometimes, as, for example, in some forms of epilepsy, we have reason to believe that this disturbance is itself due to gross local lesions of the cortex. In many of these mental troubles we find derangement in self-consciousness and loss of voluntary control over different sensory or motor areas, and this is not seldom connected with heightened suggestibility. These facts have led many good authorities, notably Professor Charcot and the school of Paris, to regard hypnosis as a neurosis of the hysterical order depending upon some cerebral abnormality. I can, therefore, scarcely conclude this paper without making mention of this view and briefly indicating the reasons which lead me to dissent from it, although I do so with the modesty of the layman.

The researches of the school of Nancy have conclusively shown that the hypnotic state can be induced in the immense majority of normal adults, and they have been unable to discover any relation between susceptibility to hypnosis and hysteria, neurasthenia, or any other recognized disease. If, then, hypnosis is a disease, we are nearly all more or less tainted with it. This conclusion is supported by Moll, Dessoir, Wetterstrand, Forel, and many others. In the second place, I think that it is a nuisance of language to term a state which can be expermentally induced and ended, but which does not spontaneously occur, and which, when thus experimentally produced and ended, does not tend to unfit the patient for the duties of life, a disease. But if ever we find hypnosis occurring spontaneously, it would tend to interfere with the patient's discharging his duties as a member of society, and in that case we would be justified in regarding it as a true neurosis of the hysterical order.

I have said that hypnosis may be regarded as an artificial prolongation of an approximately normal state. But, one may ask, what is the effect upon the patient of this artificial prolongation of a normal state? If the hypnotic state involved, as I am inclined to suppose, a temporary dissociation of cortical processes normally co-ordinated, even though this dissociation be produced by normal agencies, may it not be that by fixing and prolonging it beyond the normal time we may loosen the bonds of union between the different areas of the cortex and produce a true hysterical neurosis? The question is most pertinent, and can be answered only by reference to observed facts. Some few cases of mental disturbance have been reported from the use of hypnosis, but such cases have been so few in number that we are justified in saying that the danger of such results in the case of the healthy patient in the hands of a trained operator is practically negligible. Some slight physical discomfort, as headache, drowsiness, and lassitude, are frequently found, but can usually be removed by suggestion. Headache is a very common symptom. But the only danger which is both serious and common appears to be the production of increased susceptibility to the hypnotic state. This is a very real danger, and we must ever be on the watch against it and cease experimenting at the first suggestion of it. Most authorities believe that we can always guard against it by the suggestion. We can to some degree, but know of no facts that show that the suggestion will last as long as the increased susceptibility to hypnosis.

Apart from the physical dangers springing from the use of hypnosis, we must consider the moral. That moral dangers exist there can be no question. Already several cases have been reported in which criminal assault has been committed by the aid of hypnosis, and the French experimenters have enticed patients to commit imaginary murders and thefts, to sign promissory notes, and to bear false witness in the same way. Yet I do not feel that our present knowledge justifies much apprehension on this score. We hear much in the literature of hypnotism of the cases in which the suggestions succeed, but little of those in which they fail.

And they very often fail, as I shall hope to show you. A suggestion whose execution the patient would find repugnant in the waking state will often meet with great resistance and sometimes fail of execution. The influence of the operator over his patient is much greater than in waking life, but it is perhaps never absolutely complete, and if there are persons who could be induced by hypnotic suggestion to commit crimes from which they would shrink while awake, such persons are probably exceedingly rare and their weakness is rarely suspected. One other danger remains which I must not fail to mention, and that is the danger springing from careless suggestions. I know a gentleman who thoughtlessly told his patient that the devil was after him, and had great ado to save the terrified patient from throwing himself from a sixth story window. The operator must ever remember that his every word is caught by the patient, no matter how impassive the latter may seem, and he must always be on his guard against saying anything of an exciting or terrifying character.

I have never seen any good reason for believing that there is any relation between hypnosis and telepathy. It is true that telepathic phenomena are from time to time reported as having been observed in hypnosis, but such phenomena are also reported in waking life. Most certainly the hypnotized patient is not, as a rule, sensitive to telepathic influences. But even if we admit that he sometimes is, it would not essentially modify the theory which I have outlined, and we would not be compelled to return to the theory of a force emanating from the operator and controlling the subject. We would merely be compelled to admit the possibility of a suggestion being conveyed in some way and by some means not at present understood.

In conclusion, let me say a word or two on the practical principles that should guide us in the use of hypnosis. No one should attempt it without having thoroughly studied the question, acquainted himself with the works of the great authorities, and having had some experience with an instructor. Its use should be limited to purposes of research, instruction, and therapeutics. A witness should always be present. The operator must rigidly respect the personal rights of the patient. He must have his full and intelligent consent to the experiment proposed, and must never endeavor to obtain influence over him at times or in ways other than those agreed upon. He must guard the patient effectually from any future inconvenience arising from increased susceptibility, and if he have reason to doubt his ability so to guard him, he must stop his experiments. And in the last place, and this principle includes all the others, he must ever have in mind and at heart the true welfare of his patient, and act in accordance with it.

DISLOCATION OF THE HEAD OF THE HUMERUS COMPLICATED WITH IMPACTED FRACTURE OF ITS ANATOMICAL NECK.

JOHN B. ROBERTS, M.D., PHILADELPHIA, PA.

A boy, nine years old, was brought to my clinic at the Women's Hospital on February 29, 1895, by Dr. Marie K. Formad on account of an injury to his left shoulder. About a week before Dr. Formad saw the boy professionally and ten days before I had an opportunity to examine him, he had fallen at school and struck his shoulder against a wall.

He had been brought to the hospital two days before I saw him, and Dr. Anna M. Fullerton, with Dr. Formad, examined him under ether and reduced what seemed to be subcoracoid dislocation of the head of the bone. Both of these physicians were struck by the flattened appearance of the deltoid region, and say that the bone distinctly snapped into place during the manipulations which they made. They could subsequently put the

boy's hand on his head and on the opposite shoulder. These positions could not be given the bone before etherization and reduction of the dislocation. The shoulder had still, however, an unusual appearance, notwithstanding the reposition of the luxated bone. The case was accordingly referred to me.

When I saw him the acromion was unduly prominent. The left humerus was apparently half an inch shorter than the right, and the width of the upper end was markedly increased. The greater tuberosity, which could be easily felt, for the boy was not very fat, rotated when the lower end of the humerus was grasped and given a rotary motion. The head of the bone, which I could feel in its normal position, also moved during this manipulation. I felt at times a grating like that of crepitus, but this did not seem to pertain to the humerus so much as to the scapula. It seemed to be in the posterior portion of the joint; but I could make out no fracture of the neck of the scapula, as was suggested by the situation of the grating.

The boy could voluntarily move his arm upward and outward without pain, though these movements were made in a guarded and careful manner, as though he feared suffering. The movements were not very extensive, but showed that the continuity of the humerus was maintained.

Being unable to make a diagnosis without giving pain I etherized him. I then found that rotation of the lower end of the humerus caused similar motion of the head bone, but that if I held the head still with my left hand I could, by means of my right hand holding the shaft of the humerus, cause a bending or rocking motion between the head and the shaft. This movement was between the greater tuberosity and the head. It was apparent that there existed a connection between the shaft and the tuberosity, and also between these portions of the bone and the head; but an antero-posterior rocking motion could be made between the shaft and the tuberosity on one hand and the head on the other. There was no fracture of the neck of the scapula and no dislocation of the head of the humerus.

Three conditions were suggested by these symptoms: First, a firmly impacted fracture at or near the anatomical neck, which allowed the whole bone to move when rotary motions were given to the shaft of the humerus, but which permitted bending between the head and greater tuberosity. Second, a partial or green-stick fracture at or near the anatomical neck. Third, an epiphyseal separation of the head with impaction. The fracture, whether impacted or of the green-stick variety, had permitted the dislocation, which also existed originally, to be reduced under ether by Dr. Fullerton and Dr. Formad. The rigidity maintained at the seat of fracture had been sufficient to permit the head of the bone to be put in place by leverage obtained from the shaft of the bone. The manipulations needed to reduce the luxation were not forcibly made, and the replacement was easily accomplished. Hence, the fracture could not have been produced by these efforts.

The widening of the upper end of the humerus, which was very conspicuous, and the apparent shortening of the humerus, inclines me to the theory of impacted fracture. The age of the child suggested, however, a green-stick fracture as a possibility. By forcible manipulation I obtained complete separation of the fragments. The sensation imparted to my hands was that caused by disentangling or breaking apart two pieces of bone. Subsequently the arm assumed the usual appearance of a fracture of the humerus close to the shoulder-joint. The crepitus originally felt in the vicinity of the scapula was probably due to the rough edges of the firmly impacted fracture rubbing against the border of the glenoid cavity. Having become convinced of the diagnosis, and having restored the proper conformation of the shoulder, I dressed the injury in the usual way—with a small pad in the axilla and a bandage to hold the arm to the thorax, which acted as an internal splint.

Union took place promptly. When I last saw the boy, about eight weeks after my first examination, there was a little unnatural prominence of the acromion, and the head of the humerus seemed to project forward a little more than usual. These appearances may have been due to atrophy of the deltoid. The movements of the joint were perfect.

We shall not need an epidemic of cholera when the new diphtheria antitoxine begins to get in its work.

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SATURDAY, MAY 4, 1895.

EDITORIAL.

CONSENT IN SURGICAL OPERATIONS.

The surgeon is placed in a situation of great delicacy and embarrassment when the family of his patient, or some member of it, offers objection to the performance of an operation, the necessity for which is clearly indicated and recognized by the physician. Especially distressing is it when the patient is a wife and mother, on whose life and health depends the home, and, as is most common and most unfortunate, the objection is raised by the husband. If demanded to save life and the patient is conscious and sane and consents, the operation should be done no matter from what source the objections or who may be the objectors. The husband, by virtue of his position as head of the family, should have the privilege to choose the surgeon. It must not be concluded that he has no rights which are bound to be respected; that the solicitude natural to his relationship should not be honored. It is only where he is governed by selfish motives; where he values his wife but little more than he does his horse; where unreasoning prejudice or extraneous evil influence prompts his opposition, that he should be pushed aside and the welfare and will of the wife alone considered.

Few surgeons are willing to undertake a case where the husband or family prefer that the patient die, or pass into chronic invalidism and life-long suffering, rather than submit to an operation which would save life, increase the chances for ultimate recovery, or even alleviate suffering. For where he encounters such objections, the surgeon not only is subjected to increased anxiety in his surgical work, but he incurs the risk of possible annoyance, perhaps to the extent of pecuniary mulcting. There is too much needy and exacting work ready at hand, responsibility is too onerous, life is too short, to wait and worry and risk in cases where confidence is wanting, capability is unrecognized, where the work and its incident responsibilities are unappreciated, and difficulties and em-

barassments are thrown in the way of its successful execution.

Aside from the feelings of the family are other factors which operate to influence the patient: the talk of neighbors, lineal decendants of the comforters of Job; the gossip, who can give details of the operation and foretell the result—some one she knew told her all about a case somebody had heard some one else relate; the corner druggist, who kindly volunteers an opinion based upon his professional knowledge. Patients have been deceived as to real conditions by men anxious to operate or greedy for large fees. This fact often influences a patient and family, especially where the outward manifestations of disease are not indicative of its gravity. There is an almost irresistible tendancy to wait, in hope that "something will turn up" for the better. The profession in general, recognizes that, in many surgical cases, delay proves disastrous; that if it is not fatal, it results in chronic invalidism and places the patient beyond the possibility of complete recovery. In some cases more or less responsibility attaches to the attending physician who, ignorant of the real trouble or influenced by some questionable motive, discourages operation and even examination by some specialist in the suspected condition.

On the other hand, the surgeon must feel confident of his position. There are errors committed so willfully, selfishly and wantonly, that even that charity which "covereth a multitude of sins" can not palliate them. Surgery, and particularly gynecological surgery, is full of temptations seductive to one ambitious for name and gain; temptations which appeal to many very weak points in human nature. The true surgeon will obliterate thoughts of self and consider the issues of his work. These are momentous, for they deal with human life, with time and with eternity. No man can envy success gained in the way indicated by the dying declaration of a distinguished specialist, operator, writer and teacher, that more than one-half of his operations *were done for money*. The lesson in this confession should sink deep in the surgical mind, and yet deeper into the surgical conscience. When there is less of needless meddlesome operative interference, less of ignorant blundering work done, there will be less of objection raised where conditions indicate the necessity of resorting to surgery.

Legally considered, to justify a surgical operation upon a married woman, her consent and not that of her husband is necessary. A married woman cannot be compelled to submit to an operation; but if she voluntarily submit to its performance her consent will be presumed, unless she was the victim of fraudulent misrepresentation. Even if the disease resulting in death was caused by the operation, the surgeon is not liable if he performed the operation with the patient's consent, in a careful and skillful manner, and under the belief that it was proper to be performed.

The party who allows a surgical operation to be performed is presumed to have employed the surgeon for that particular purpose, and it will be presumed that the operation was carefully and skillfully performed in the absence of proof to the contrary.

A judge of the Supreme Court of Maryland, rendering a decision in a case in point, tersely and aptly states the principle governing in the matter of consent:

"Surely the law does not authorize the husband to say to his wife, 'you shall die of the cancer; you cannot be cured, and a surgical operation, affording only temporary relief, will result in useless expense. The husband has no power to withhold from his wife the medical assistance which her case might require. The consent of the wife, not that of the husband was necessary."

It was said by the Supreme Court of Michigan, in a recent case:

"It would be a cruel rule for her, the wife, if she cannot, in the absence of the husband at least, or in his presence if he does not himself provide for her, make a binding agreement for any necessaries, whether articles to be provided, or professional help. It is not to be expected that physicians and surgeons will always feel bound to render gratuitous treatment to injured persons, and when the occasion s pressing, it would be unreasonable to delay until an absent husband is communicated with to learn whether he consents or refuses to assume her contracts. Time will not allow minute inquiries, humanity will not prompt them. It seems to us that no sensible line can be drawn between contracts for food and clothing and contracts for medical aid."

ABSTRACTS.

THE MANUFACTURE OF DIPHTHERIA ANTITOXINE.*

The discovery of antitoxine as a new agent for the prevention and cure of diphtheria was announced by Prof. Emil Behring, of Halle, about four years ago. Although received at first with more or less incredulity, the new remedy has borne successfully the test of actual use by a number of eminent practitioners in Germany and other countries, several of whom presented reports embodying their experiences and conclusions at the recent international medical conference, in Buda-Pesth, antitoxine now is recognized by all the authorities as one of the most useful and interesting discoveries in modern pathology.

Since the publication of Dr. Behring's treatise on the subject, no secret or mystery has surrounded the nature of antitoxine or the conditions of its use so far as these had then been demonstrated, but, for the reason that its manufacture is difficult and expensive, involving tedious preparation of materials, scrupulous care, and the use of complicated apparatus of production, the new remedy has until quite recently fallen far short of meeting the constantly growing demand, which, especially since the conference at Buda-Pesth, has come with increased insistence from every civilized country where diphtheria is recognized as one of the most fatal and persistent scourges of the human race.

Through the employment of a liberal endowment, raised by popular subscription at Paris, antitoxine has been made there for the supply of the local hospitals, and measurably for the use of practicing physicians throughout the city and immediate vicinity. A small quantity has been produced at Berlin, and establishments for its manufacture are in construction at Milan and Buda-Pesth, but the place where it has been and now is manufactured in quantities at all commensurate with the demand is at Hœchst-on-Main, near Frankfort, Germany.

The material at first used was the blood of sheep and goats, but, for the reason that those animals in grazing were liable to eat plants which might affect the quality of their tissues, recourse was had to horses, which now are employed exclusively to furnish the blood-serum in which the antitoxine is developed and contained.

A description of this interesting manufacture involves necessarily some account of the nature of antitoxine and the principle upon which its prophylactic action depends. Dr. Behring found that when an animal by nature susceptible to diphtheria was inoculated repeatedly with gradually increased doses of diphtheria poison it became finally immune to the poison of that disease, and there was developed in the tissues of the animal so tried an antitoxine principle which had the power to neutralize and render innocuous the poison which was secreted by the

*From the official report of Consul-General Mason, at Frankfort, Germany, to the U. S. Government.

diphtheria bacillus, as demonstrated in 1884 by Lœffler—the poisonous secretion, as is well-known, forming the source of danger in diphtheria.

The neutralizing agent thus created is named antitoxine, and is the specific which forms the basis of the new treatment of diphtheric diseases, both as a preventive and as a remedy in cases that actually have been developed. Precisely what this antitoxic agent is has not been demonstrated. Chemistry has not separated and defined its constituent elements, but its action is perfectly understood as analogous to that of hydrated oxide of iron when used as an antidote for arsenical poisoning. In the presence of arsenic the oxide unites with the poison and forms a combination which is not poisonous. In a smaller manner the antitoxine attacks and neutralizes the poison secreted by the bacillus of diphtheria, and this, so far as experience has shown, without subsequent injury to the tissues or prejudice to any of the functions of human life.

Antitoxine may be obtained in a highly concentrated form by either of two methods: First—Through precipitation from the serum solution by means of sulphate of ammonia or hydroxide of aluminium, and in this case the resulting precipitates are mixed with alkaline solutions and evaported in vacuo at low temperature. Second—The original solution may be evaported directly to dryness, leaving the dessicated antitoxine as a residue.

The essential conditions in the preparation of diphtheria antitoxine are absolutely pure and healthy animal serum, thorough knowledge of bacteriological processes, absolute cleanliness and care at every stage of the operation. The horse is one of the most susceptible of animals to diphtheria, and, being not only tractable and easily kept under requisite conditions, but capable of supplying a large quantity of blood, is best suited for the purpose. The horses now in service at Hœchst were chosen with every precaution—the requisites being youth, vigor and perfect physical health.

No racing thoroughbred was ever housed, fed, watered, exercised and cared for more scrupulously than these chosen animals which give their blood for the healing of human kind. The stables are under the supervision of a veterinary surgeon, and when a new horse is introduced he is kept for a period under close observation to detect any symptom, however slight, of antecedent injury or disease. If no such defect is discovered, he is put on the active list, his stall is numbered, and a special book is open for him, in which every detail of his daily treatment and condition is carefully recorded.

He first is inoculated high up on the shoulder with a small or weakened dose of diphtheria poison of living bacilli. Thus far his temperature is frequently taken, and his appetite, his general aspect, the condition of the wound made by the hypodermic syringe, etc., are minutely observed and recorded. After the proper interval the inoculation is repeated in gradually increased doses, until the horses become immune to the poison of diphtheria. Every tissue of the animal's body now contains antitoxine, but the blood is the substance which most readily can be withdrawn without injury to life and health, and the blood alone is used.

It is important to ascertain definitely when the treatment of each animal has been continued sufficiently to render it immune and fully developed of antitoxine in its tissues. This is done by drawing a small quantity of its blood, separating the serum, and mixing this with a specified quantity of the diphtheria poison, such as otherwise is used for inoculation. With this mixture a test animal—usually a rabbit or a guinea pig—is inoculated, and the result is observed. If the test animal becomes ill from diphtheria, it is proved that the antitoxine in the horse's blood was not sufficiently developed to neutralize the requisite volume of poison, and the inoculatory treatment is therefore resumed. But if the test animal shows no ill effects the potency of the serum is thereby established and the horse is ready to become a producer of antitoxine.

The amount of blood that a strong, healthy horse can supply without apparent injury to its physical condition is somewhat surprising. Record books at Hœchst show that from one of the horses 10 liters (21.13 pints) of blood have been drawn within two days; another has yielded 21 liters in eight days, and the average for each animal varies from 25 to 50 liters a month. All have at present the appearance of good health, and some have even grown fat under the ordeal. Dr. Behring, who has drawn blood from the same horse

for nearly four years, states that it is in good physical condition.

The blood thus obtained passes to the laboratory, where the serum is eliminated, exposed to a degree of heat which destroys the last vestige of any form of bacillus that it may contain, and then is prepared for use by processes, a description of which would extend unduly under this report. As a final precaution against the survival of any bacillus, and to avert danger of decomposition from bacterial growth, 5 per cent. of carbolic acid is added to the antitoxine serum, and in this condition it may be kept in a cool place, with exclusion of light, for months without the loss of much antitoxic power.

Horses vary individually in respect to the strength of the antitoxic serum they produce, and the finished product is prepared in three degrees of strength, numbered respectively, 1, 2 and 3, which are indicated by different colored labels on the vials in which it is sold for use. In the use of antitoxine, either as a prophylactic or remedy, the strength of the serum employed is a point of importance to the physician, who should know precisely the antitoxic energy of the dose administered. It was, therefore, necessary to formulate a system of measurement for this energy based upon a definite and invariable unit. This has been done mainly through the labors of Drs. Behring and Ehrlich as follows:

The bacilli of diphtheria are propagated in bouillon. The amount of such poison that a given measure of bouillon will contain is fixed and definite like the limit of saturation in many saline and other solutions. The deadliness of this maximum solution of diphtheria poison may be inferred from the fact that one-fourth of a cubic centimeter of it administered hypodermically will kill a guinea pig of 250 grammes weight. The relative strength of this normal bouillon toxine and the antitoxine is as ten to one—that is to say, one measure of antitoxine will neutralize ten measures of *Normangift*, which is the German name for diphtheria bouillon. The standard strength and the energy contained in one cubic centimeter (one-thirtieth of a fluid ounce) of such antitoxine forms the unit of measurement of antitoxic power.

But some horses yield far more powerful serum than others, and the serum may be produced so powerful that one-tenth of a cubic centimeter of it will neutralize ten centimeters of poison. One cubic centimeter of such serum would thus contain ten units of antitoxic power, and would be designated as "tenfold serum." The strongest serum yet produced is "140 full," one measure of which neutralizes 1,400 measures of the normal toxine solution.

The finished antitoxine is a clear, amber-colored fluid, soluble in water, and is put up for use in strong, carefully closed, sealed and labeled vials, having a uniform capacity of ten cubic centimeters, or one-third of a fluid ounce. The exact bulk of serum in each vial is regulated according to its number and strength, as follows:

Antitoxine No. 1 (green label) contains 600 units of antitoxic energy, and is used in mild cases and for young children, or as a preventive to inoculated children or adults who have been exposed to diphtheria, but are not yet attacked visibly. The prophylactic power of antitoxine is estimated at ten times its curative virtue, so that a subcutaneous injection of one cubic centimeter of serum No. 1 is generally regarded as sufficient to avert diphtheria.

Antitoxine No. 2 (white label) contains 1,000 antitoxic units, and is used for older patients and where treatment has not been commenced until the attack is fully developed.

Antitoxine No. 3 (red label) contains 1,500 units of strength, and is employed for severe cases where malignant symptoms prevail and treatment has not begun until the disease has reached a critical stage.

It is more than probable that with further experience the importance of the highest of these three grades of serum will be diminished greatly, and instead of one injection of highly-concentrated antitoxine, repeated doses of the weaker quality will be preferred. The principle has been fully established that the requisite number of antitoxic units can be supplied, even in severe cases, by simply repeating the injection of serum No. 1—in other words, it is quantity, not quality of strength, that is required, and Prof. Behring is of the opinion that ultimately only one serum of standard and uniform strength will be used.

It also has been found that age has an

important salutary effect upon antitoxine. In the earlier experiments, when the supply of antitoxine was small and temporary, freshly-prepared serum was mainly used, and produced in some cases a slight eruption of the skin. This was the outward sign of a disturbance, the ultimate consequences of which caused some fear, but later experience has shown that this eruption is not caused when serum which is ripened a few weeks is used. Instead of degenerating, antitoxine improves with age, at least during the first two months, and the best German practitioners no longer use freshly-prepared antitoxine when that which has undergone the ripening process can be obtained.

All authorities agree that an early application of the remedy is of the utmost importance. At the Lazarus Hospital, in Berlin, where 72 cases of diphtheria in children were treated within 2 days of first appearance, only 2 cases were fatal, and Dr. Kossel estimates that in such favorable conditions the death rate can be reduced to 4 per cent. It follows from the nature of antitoxine that it can have no curative effect in cases of any disease other than diphtheria such as are caused by the Loeffler bacillus, and no exact and conclusive statistics can be prepared until such cases are carefully distinguished from scarlatina and the other kindred diseases in which the real diphtheric bacillus is not present.

Only the careful experience of years by a large number of physicians can settle definitely all the questions that have been raised by the introduction of antitoxine; so its precise value as a preventive or remedy, in determining finally whether its use when properly prepared and administered entails any danger or injurious effects upon the patients, although inconclusive from a scientific standpoint, is certainly most important.

SOME PRACTICAL POINTS IN OBSTETRICS.

Crow, in the *Virginia Medical Monthly* gives the reasons which have led him to adopt the following routine as regards antiseptics in obstetrics. While it was not the result of scientific bacteriological investigation, but purely that of practical results obtained in the treatment of about eight hundred cases, it is nevertheless, in accord with the results of our scientific investigators, namely:

1. If the patient tells him that she has no abnormal secretions from the vagina, then he advises a plain douche of hot soft water at the beginning of labor.

2. If she has an adnormal secretion, then he advises a douche of hot water, carbolized, once or twice a day prior to expected confinement.

3. If the secretions are profuse and irritating to the parts, then he advises a local treatment as a means of relief, in connection with the carbolized douche.

4. A five per cent. creolin solution he finds the best antiseptic lubricant for the hands of the accourcheur at the time of confinement.

5. He uses a dressing of boric acid on absorbent cotton over the vulva, changing it whenever the cotton becomes saturated, and then bathes the external parts with some warm antiseptic solution.

6. He neves advises a vaginal douche for the first week or ten days after labor in normal cases with no rise of temperature.

7. He tries to impress upon the nurse the importance of thoroughly cleansing her hands before attending the patient.

Even with this treatment arrest of flow, rise of temperature, etc., sometimes occur, probably due to undue exposure of the patient and using water of too low a temperature in bathing, and lack of proper cleanliness on the part of the nurse, especially in families where the nurse in attendance has to be cook, washerwoman, housekeeper, and attend, perhaps, to the numerous wants of older children, etc.

It should be remembered that nature does a great deal in throwing off the material for sepsis to take hold of; and too much interference with the mother in the way of douches and washes repeated too often during the first few days is harmful, for it breaks her rest and adds to the already high tension of the nervous system, which is altogether unfavorable to the normal restoration of the functions.

THE DISINFECTING POWER OF SOLAR RAYS.

Certain articles, as furs, leather, etc., cannot be disinfected by steam, since they are thereby rendered useless. Others, which are certainly amendable to such treatment, as fixed upholstered articles of of furniture, cannot be removed for the purpose. To disinfect these we have recourse to gaseous agents, and they, according to the results of experiment, are not always reliable. An exception possibly lies in formalin, which has recently been recommended by Lohman (Munchener *Medical Wochenschrift*). Another means of disinfecting such articles consists in the use of solutions of carbolic acid or corrosive sublimate. In the case of wooden and metallic articles, with smooth hard surfaces we can rely on the result, if they are first thoroughly sprayed with the liquids and subsequently washed, but such is not the case with thick woolen materials. Duclaux, (*Review Scientifique,*) found that some bacteria are destroyed by sunlight, and he refers to this as an important agent in the sterilization of the atmosphere. Arloing (*Compt. Rend.*,) proved that anthrax bacilli are destroyed by the solar rays. Koch has also shown that tubercle bacilli cannot be exposed to the same for very long and survive. Fermi and Celli (*Centralblatt f. Bacteriologie*) in a series of experiments, demonstrated that germs in aqueous suspension are likewise killed, and Baspe (*Dissertation Schwerin*) asserts that the sun is able to hinder the development and even destroy bacilli lying on the surface of the soil or submerged in water. But no experiments have been hitherto made to determine how far these rays may be used as disinfectant of clothes, bed linen and furniture.

It is common custom to expose the clothes, bed linen and mattresses to the air and sun, especially after death, possibly in the hope that currents of air may diffuse evil odors more quickly. Nevertheless, it seemed of importance to the author to investigate how far such results were trustworthy, and how far they were attributable to the direct effects of the solar rays.

Esmarch used pillows, varying the contents, skin, etc., and bacteria, as pure cultures, or pus containing micrococci. He imitated the natural conditions as far as possible. The materials were contaminated with the solutions placed in the sun, either at once or after drying. Control experiments were made. He arranged wool, cloth, etc., in layers, and in the first series of experiments to prevent the falling of atmospheric microbes during the exposure, he placed the pieces in a box covered with a glass pane, and provided at the sides with openings for ventilation. The temperature of the interior, however, rose much higher than that of the air (30°) and vitiated the results. In subsequent experiments the objects were always placed on the grass in the sun. Esmarch concludes that the sun's rays have a marked action on the surface, but that this speedily becomes lost when bacteria are protected by layers of material. The cholera bacilli, even in the deepest layers, were killed; but this is not surprising since dessication, lasting but a short time, is fatal to it. An exposure, lasting eight to ten hours, yielded but unsatisfactory results. After one day she diphtheria bacillus was killed in the interior of the pillows, but when protected by the woolly hair of a sheep's skin, 39 hours were insufficient. Streptococci within the pillows, and the skins withstood a five days' exposure. Esmarch then sprayed infected articles with two per cent. and five per cent. solutions of carbolic, and found that the weaker acid is little better than the sun, and that five per cent. is not altogether reliable. (Ueber sonnen desinfection. E. Von Esmarch, *Zeitschrift f. Hygiene.*)

The Value of Diphtheria Antitoxin.

The discussion on the value of the diphtheria antitoxin at the Berlin Medical Society, was concluded at the third session of the society. *Med. Rec.* Dr. Schiemmann warned general practitioners against employing the antitoxine, which he said should be left to hospitals for the present. Professor O. Liebreich, director of the Pharmacological Institute of the University, criticised the published serum statistics. He said that the Berlin hospitals had always had a much higher percentage of deaths from diphtheria than the Berlin town practice. This was because, broadly speaking, only serious cases were brought to the hospitals.

THE TREATMENT OF TETANUS BY ANTITOXIN.

A successful case of tetanus treated by antitoxin is reported by John Marriott, M.B., in the *British Medical Journal* for January 19th. The symptoms began six days after the injury—a wound in the jaw caused by a missile from a catapult—with inability to open the mouth and difficulty in swallowing.

On the ninth day, when the patient was first seen by Marriott, the muscles of the neck and back were stiff and prominent, and there was well-marked trismus. Disinfection of the primary focus, administration of chloral, as much as could be swallowed, and physostigmine (one-one-hundredth grain) hypodermically during the next two days did not relieve the symptoms, which became gradually more aggravated, until on the fifth and sixth days there was slight opisthotonos. Two and one-half grammes of Tizzoni's antitoxin were now given hypodermically, the necessary punctures causing strong opisthotonic spasms. On the next day, the thirteenth of the disease, the patient was able to swallow a little. One gramme of antitoxin was given. The following day swallowing was easier. Speech was unintelligible, but the patient could make himself understood by writing in large jerky scrawls; one-half gramme of antitoxin was given. During the following days gradual improvement was noted, one-half to one gramme of antitoxin being given daily until the twenty-first of the disease, when none was administered. The jaws at this time were still clenched. On the twenty-second day of the disease, early in the morning during sound sleep, the jaws opened sufficiently to allow the tongue to protrude and when the patient woke the tongue was caught and firmly held. The irritation caused renewed spasms, embarrassment of respiration, cyanosis. Attempts to administer chloroform only made matters worse. Although the patient appeared to be dying, one-half grain of morphia with one-fiftieth of physostigmine was given with success in causing relaxation of the spasm and release of the tongue. Recovery from the morphia was followed by a return of the spasms, which were successfully combatted by antitoxin. The case progressed to recovery, and the patient was able to sit up on the thirty-fourth day.

The second case, which terminated fatally, was one of tetanus neonatorum, treated by antitoxin. The child had been delivered by a midwife, and the disease appeared on the eighth day of life. On the fourth day of the disease it was first seen by Dr. T. Lacy Firth, who reports the case.

On the fifth day of the disease there was jaundice, the eyes were tighly closed so that the lids could not be opened. The jaws were set and the neck and spine rigid. The child could be held in a vertical position by holding the legs only. A part only of the milk introduced into the mouth was swallowed, and the attempt produced cyanosis and short feeble cries. Nutrient enemata, chloral and bromide constituted the treatment.

On the seventh day an alarming collapse took place, but passed off. Similar attacks followed on succeeding days. On the tenth day there were eight of these attacks and the child died in the evening of this day.

On the eighth day of the disease four-tenths of a gramme of antitoxin was given subcutaneously, and during the ninth day two injections of the same amount were given.

On the tenth day eight-tenths of a gramme was given at one dose. The total given thus was two grammes.

In the *Quarterly Medical Journal* two cases of traumatic tetanus in adults are reported, both successfully treated by antitoxin. The antitoxin treatment was begun on the ninth and third days of the disease, respectively. In both these cases repeated doses of the antitoxin were required, and improvement in the symptoms followed each dose.

It is interesting to note that in the last case, a child of six, a rash resembling measles with fever and swelling of the cervical lymphatic glands appeared on the twelfth day after the discontinuance of the antitoxin.

That a similar rash has been often noticed after the antitoxin treatment of diphtheria is interesting, and points to the fact that the rash may be due to the serum

itself and not to the particular antitoxin it contains. The failure of the serum in the case of tetanus neonatorum cannot be considered as indicating its unreliability, when we consider that the eighth day of the disease in a new-born child is a much later period with reference to effective treatment than it is in an adult. The possibility of complications, as suggested by the jaundice and attacks of collapse, which are not usually symptoms of tetanus, is present. Unfortunately no autopsy was allowed.

In the light of these cases, and in view of the widespread reports of the success of antitoxin in diphtheria, we think the time has come when public authorities should take into serious consideration the general problem of assuring to the profession and to the public reliable sources of supply of such antitoxins as are proved by sufficient and careful experience to be curative.

FREE BLOODLETTING IN PUERPEPAL ECLAMPSIA.

D. Dwyer, M.D., writes to *New York Medical Journal:* On Friday, November 2, about 9 P.M., I was called to see Mrs. J. M., who was, as she supposed, about to be confined. On my arrival at the house I found her in bed, apparently quite comfortable. The first thing which I did, of course, was to make an examination. From this I concluded that the labor had not at all begun, and by the way, previous to my arrival, she had had no pains other than some stomach irritation. I could find no dilatation of the os, and was about to leave and return to my office after having remained about an hour, when she suddenly complained of dimness of vision and in a very few moments complete blindness. I anticipated the future, as we all, as practitioners of medicine, know what this means.

It was only a very few moments until she went into a convulsion which, indeed, was very severe. I could do nothing, only keep the teeth apart at the next. However, I had my chloroform ready and administered it in the usual way, and I am sorry to say with little effect. I remained at her bedside till 5 the next morning, when I left and returned to my office te see if I could find anything in my library that would enlighten me on the subject, and there, as Professor Ford, of the University of Michigan, used to say, "I succeeded in failing."

It was utterly impossible to get my medicine into the stomach, for she was unconscious from the first convulsion until we resorted to bloodletting. The convulsions came on every fifteen to twenty minutes. On the next morning, about 8 o'clock, I called Dr. Blackslee in consultation, and on making an examination we found the os considerably dilated.

What, then, were we to do? We tried injections, but they were of no avail. We then, as the heading of my article indicates, resorted to free bloodletting. We opened the median basilic vein and drew therefrom a quart and half a pint of blood. We had no sooner done this than the patient regained consciousness and was immediately delivered of the child, which in our opinion, was at about the seventh and a half or eighth month; it lived four to five hours. The woman got along very well with medication. As soon as she would take any, we gave diuretics and cathartics.

This I consider a rare case on account of the extreme amount of albumin in the urine.

Seborrhoic Eczema in Children.

Feulard, (*Brit. Medi. Jour.*,) observes that attention must be given in the first place to the diet, which should be limited to milk, with the addition, in older children, of eggs. In the local treatment the first step is the removal of crusts, which may be effected by using warm coal tar lotions, preceded, if necessary, by poultices. After the crusts have been removed he uses gauze compresses soaked in a solution of resorcin (6 in 1000). These are kept constantly applied to the scalp by day, and are applied frequently to the face. By night an ointment is used, consisting of one part of balsam of Peru to thirty parts of vaseline. Later he uses fine starch powder, or a powder consisting of equal parts of starch and carbonate of bismuth.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Hydrosulphate of Calcium and Protosulphide of Barium as Depilatory Medicaments.

The depilatory action of the hydrosulphate of calcium and of the protosulphide of barium has been studied by Annequin (*Archives de Med. et de Pharm. Militaires*). The sulphydrate of calcium is an unstable body, losing its sulphydric acid under the action of carbon dioxide, and in the presence of air it is slowly oxidized. The odor of sulphydric acid may be masked by a combination with some aromatic essence, such as peppermint, bergamot, etc., in the strength of one to two per cent. Calcium sulphydate, locally applied in the form of a paste made with water, has caused the softening and detachment of a finger-nail in about an hour, and in two hours that of a toe-nail. A longer time is required to produce a similar effect on horny growths or corns. A growth about five millimetres (one fifth of an inch) thick has been destroyed in about twelve hours. The action of the medicament is enhanced if the growth or corn to be treated be previously subjected to a sort of maceration. Many other alkaline sulphydrates and sulphides associated with a caustic base have a destructive action similar to that of the sulphydrate of calcium, but they affect the roots of the hair and prevent the growth of this; hence the superiority of the calcium base. This does not injure the dermis nor the hair-roots, and its action is rapid and painless. Next to this body, the best depilatory agent is said by the author to be the protosulphide of barium. The application of this substance is also very simple. A layer of the paste is applied to the part to be treated, and in about from six to seven minutes all the hairs are destroyed. The barium protosulphide is superior to the calcium base, in that it is odorless, more rapid in its action and cheaper. It causes a slight smarting, which only lasts a short time. This latter effect may be diminished by associating the medicament with oxide of zinc, but under these circumstances the rapidity of action is lessened. The protosulphide is the only sulphide of barium, so it is asserted, that exercises a depilatory action.

Raynaud's Disease With Complications.

The following account of a case of this rare condition is given by T. K. Monro (*Glasgow Medical Journal*): The patient, a girl, when first seen was twenty months old. She had marked hydrocephalus. There was a striking discoloration of the skin, which was said to have been present at birth, and at one time had existed over the whole body. Cold and crying rendered the discoloration more conspicuous, while heat rendered it less so. At present there are blue mottled patches on the face, legs and arms, and the back. There was extreme lividity or actual gangrene of portions of the extremities, especially of the second left toe and of the second right toe. Apparently there was little or no pain.

The patient was again seen five and a half months later, and two months after that, there being at both times a slight improvement. Three weeks later she was decidedly worse, owing probably to the cold weather; and a slight swelling immediately above the sterum was noticed on crying, which proved to be a diverticulum of the trachea, and a vertical slit in the wall of the trachea could be felt. She now suffers considerable pain, and is constantly crying. A dark-blue, almost black, spot is commonly present on each cheek. The reddish color is well marked on the hands and wrists, the back and the hip. The second toe of the left foot is decidedly worse, and viewed from above the distal half is of pure blue (not black and not purple) color. The plantar surface is almost entirely blue. There is no blackness on the right foot, and there has never been any on the fingers. Nothing abnormal has been detected with regard to the heart, and the urine contains no albumin, no blood and no sugar. There is no clubbing of the fingers, no muscular palsy or wasting, and no loss of sensation or swelling of the joints. There is no fever, no uticaria and no scleroderma.

The Use of Antipyrin in Large Doses.

One case of hysterical fits and two cases of chorea are reported by McCall Anderson (*British Medical Journal*) to show the good effects of antipyrin administered in large doses. According to the writer, antipyrin is the most valuable of all the coal-tar derivatives. The initial dose should not exceed ten or at most fifteen grains. When this quantity is well borne it should be increased cautiously to forty and even fifty grains three times a day. The author concludes that:

1. Antipyrin is not the dangerous drug which some observers have led us to suppose.
2. It may be given in safety in large doses, even in the case of children, in most cases, although the initial dose must be small, and it must be slowly and cautiously increased, the patient being always carefully supervised.
3. In large doses it often yields surprisingly good results, and in chorea it is the only medicine from which cures may confidently be anticipated.

Breakfast for Chlorotic Girls.

Dr. Carl Van Noorden, in the *International Medical Magazine*, speaking of the dietetic

treatment of chlorosis, says: "Most chlorotic girls feel the weakest and worn out most during the hours of the forenoon and incapable of any proper kind of work. This condition is uncomfortable and directly harmful, from the educational point of view. The best remedy is the English fashion of a good hearty meal at the beginning of the day. Chlorotic girls are advised to drink half a litre of milk of the best quality while still in bed, and do it very slowly, taking fifteen minutes to drink the quantity prescribed. Half an hour later they should rise and be rubbed with a dry, rough woolen towel. Then comes the breakfast, consisting of a small cup of tea, one or two slices of buttered toast and plenty of meat. Two hours and a half later some bread and butter is to be eaten, together with two eggs, this to be followed by a quarter of a litre of milk. A glass of sherry is now permissible if special reasons warrant it. This morning regulation or diet makes the forenoon hours quite comfortable. Fixed rules for other meals are of less importance."

The Care of the Ear During the Course of the Exanthematar

Dowine (*Journal of Laryngology, Rhinology and Otology*), says that two-fifths of all middle-ear cases examined by him originated during the course of measles and scarlet fever; but this does not indicate the number of cases in which the ear is affected during these diseases, but rather points to the proportion of chronic ear affections which follow them. Many acute cases prove fatal; while others, on account of their acute character, have active treatment applied early, by which structural changes are prevented For relief of nasal discharges the patient should be directed, from the very beginning of illness, to use the handkerchief freely; and if the child is too young to do this, Politzer inflation should be resorted to. Where the case does not come under observation till a late stage, and the pain in the ear is acute, and relief is not obtained by inflation, the membrane should be examined and incised without delay, especially if there be a sudden rise in temperature without any other explanation. This operation is of incalculable benefit to the patient, for it not only relieves the immediate pain, but saves the deeper structures of the ear and prevents the misery of a chronic otorrhœa, with its numerous attendant risks.

Hypodermic Injections of Pilocarpine in Meniere's Disease.

These cases were treated by Labit, in Moure's clinic at Bordeaux (*Rev. de Laryngol., d'Otol., et de Rhin.*), and occurred in a governess aged sixty-eight, a stoker aged forty-nine, and a female cook aged twenty-eight. The first had previously been affected with sclerotic catarrh of both middle ears; the others were quite free from any aural disease of the kind, but were, from the nature of their occupations, exposed to extreme heat. In all there were the typical symptoms—noises, vertigo, nausea or vomiting, and deafness to osseal as well as to aerial sound vibrations. In the second case one ear only was affected. The first received fifteen injections of from $\frac{1}{4}$ to 1 centigramme (about $\frac{1}{36}$ to $\frac{1}{8}$ grain), the second thirteen of from $\frac{1}{2}$ to 2 centigrammes (about $\frac{1}{15}$ to $\frac{1}{4}$ grain), and the third eight of from $\frac{1}{4}$ to $1\frac{1}{2}$ centigrammes (about $\frac{1}{36}$ to $\frac{1}{4}$ grain), continued and increased. In all the cases the vertigo disappeared, the noises diminished, and the hearing was to a certain extent restored. The writer compares the absorption produced to that observed in pleural and peritoneal effusions under the action of pilocarpine. Success depends upon the correctness of the diagnosis and the early adoption of the treatment.—*Brit. Med. Jour.*

Clinical Value of Renal Casts.

Many clinicians can recognize casts under the microscope but fail to interpret their significance. Dr. A. E. Austin, in the *International Med. Magazine*, separates them into definite groups and draws inferences accordingly. The hyaline and blood casts merely indicate irritation and hyperemia. Closely associated with hyaline casts is amyloid change of the kidney due usually to suppuration, and with a good prognosis if the source of suppuration be removed. Epithelial, granular and fibrinous casts indicate acute inflammation of the renal tubules, the epithelial cast pointing to the mild stage; that is, one of mere desquamation with urine slightly under normal in amount, specific gravity 1,030, high color, albumen a trace, numerous hyaline casts, free blood and renal epithelium. This may go on to brown or pale granular casts with diminution of the solids of the urine. The fatty and waxy casts when numerous and persistent indicate long-continued chronic inflammation of the kidney with bad prognosis. Blood and epithelial cells are absent. In this case the urine is diminished in amount with increased specific gravity. The pale, granular and small hyaline casts point to fibroid kidney. Aside from the microscopical appearance, the general condition of the patient, age, sex and previous history must be taken into consideration. It should be remembered that the diagnosis of cases alone may mean little, but the kind of casts in abundance is the important point.—*Maryland Med. Jour.*

Gold Mines in Cemeteries.

A writer in *Le Temps*, of Paris, has been traveling in America, and, of course, relates his "impressions." What struck him particularly was not the Falls of Niagara, the inquisitiveness of reporters, or the consumption of pie, but the fillings in American teeth. He has consulted the statisticians and finds that the amount of gold annually pounded into our dental cavities reaches the respectable figure of 800 kilogrammes, representing a value of half a million dollars. All this precious metal is buried with the Yankees

when they die, and consequently at the end of three short centuries the cemeteries of the United States will contain gold to the value of $150,000,000. He thinks this will prove too tempting to the practical mind of the future American, and foresees the day when companies will be organized to mine the cemeteries and recover the gold secreted in the jaws of deceased ancestors.

SURGERY.

Effects of Castration on the Female Voice.

The author, Moure, (*Univ. Med. Jour.*) calls attention to the effects of castration in in the male upon the voice, and to the physiological relations between the pharynx and the genitalia. He also narrates two cases of women who, after the removal of the ovaries, showed a marked lowering of the timbre of the voice, which, at the same time, became much stronger. He does not believe that such changes are constant, nor that it is easy to recognize them when they actually do occur, except in vocalists, and especially in the soprano with a high range. It is well known that castration, after a certain age, has no effect upon the larynx.

[We believe that in the latter remark is suggested the gist of the whole matter. Castration after puberty in either sex, probably has no effect whatever upon the voice. We know of one instance—a young married woman of thirty, with a fine voice—who after removal of both ovaries, found her vocal ability unimpaired].

Primary Carcinoma of the Body of the Uterus.

The last meeting of the Obstetrical Society was a specially interesting one. After Mr. Targett's demonstration of hydatid disease of the pelvic bones, consisting of numerous photographs thrown on the screen showing the peculiar eroding effect of the disease on the cancellous tissue and—a point of morphological importance—the external budding of the secondary cysts from the walls of the parent one, Dr. Lewers related a case of primary carcinoma of the body of the uterus in which vaginal hysterectomy had been performed more than two years ago without any recurrence of the disease. Five other cases were also tabulated. In cases of doubtful diagnosis Dr. Lewers justified the complete investigation of the uterine cavity by dilatation of the cervix, rather than the usual method given in text-books of waiting for the development of symptoms, so that the disease might be dealt with at the earliest possible period. The difficulty of extracting the uterus in nulliparous women, in whom carcinoma of the body is most frequently met with, was specially noticed. In the case described, it was necessary to widen the caliber of the vagina by incision of the recto-vaginal septum, and bring away the excised uterus by means of a pair of forceps devised by Dr. Heywood Smith, resembling small midwifery ones. Dr. Lewlers now adopts pressure forceps instead of ligatures for securing the broad ligaments. This formed a subject of discussion among the subsequent speakers, some expressing a decided preference for ligatures.—*London Lancet.*

Treatment of Fistula in Ano.

Dr. Geo. J. Cook, in *Mathews' Medical Quarterly*, says that ingenious surgeons in all ages have tried the cure of fistula without the use of the knife, because of the public prejudice against such radical procedure. Plasters, salves, ligatures and the many other methods for a cure have been resorted to, and it is only in the very recent past that the use of the knife permanently took their place as a curative measure certain in its results. The method of operation is as follows:

The sphincter is stretched, the rectum cleansed with a bichloride of mercury solution, and the fistula opened by the use of straight scissors; after the removal of all unhealthy tissues, the opening should be closed by a single row of catgut sutures, passed, by means of a curved needle, entirely beneath and around the wound. By this method he had not failed in a single instance to have the bottom of the wound unite.

Hemiplegia Cured by Trepanation.

The following case is a striking example of the progress of cerebral surgery, especially after so many years of the original injury. The case is reported by Leyden to the Berlin Medical Society, as follows:

A man thirty years of age is brought to the hospital in an unconscious state with hemiplegia. When consciousness was restored it was ascertained that for two years he was subject to Jacksonian epilepsy with loss of consciousness, which lasted about ten minutes, and reappeared three or four times a year. A fortnight before his entrance into the hospital he was attacked by violent cephalalgia on the left side, accompanied by somnolence and a state of stupor; the left side of the body became very feeble and was finally completely paralyzed.

It was also ascertained that at the age of four years, *i. e.*, 26 years before, he fell from a stairs and had his head injured. As a consequence, the diagnosis of Jacksonian epilepsy of traumatic origin, was made. In fact, on examining the patient there was found on the right half of the head near the median line, a depression which corresponded to the region of the central convolutions. Hence, trepanning was done, which showed nothing abnormal on the part of the brain. The wound was closed, and fifteen days later the patient was cured of his hemiplegia. The epileptiform attacks have not reappeared during the last four months. —*La Tribune Medicale.*

Aseptic Drainage Tube.

Dr. J. H. Kellogg (*Modern Medicine and Bacteriological Review*) calls attention to the fact that in drainage after abdominal operations, infection may occur through the entrance of air into the abdominal cavity in the process of removing fluid from the drainage tube by means of the evacuating syringe. To prevent this, he first devised what he terms an aseptic drainage tube, which he so arranged that the air which rushes in to take the place of the fluid withdrawn has been first filtered by passing through cotton and then washed by passing through an antiseptic solution. More recently he has simplified this devise by inserting into the drainage tube a hollow aluminum plug over which is slipped a thimble, connected with two tubes, one of which is attached to the evacuating syringe, the other to a funnel filled with absorbent cotton and covered with sheet lint. The wound should be dressed with guaze impregnated with a powder composed as follows:

Camphor	1 part.
Carbolic acid	1 part.
Boric acid	16 parts.

For the purpose of washing out the abdominal cavity subsequent to closure at the operation, it is only necessary to remove the filtering funnel by disconnecting it from the plug to which the funnel is attached and substituting a tube of proper length, the other end of which is made to dip into a solution of boric acid or whatever antiseptic may be employed. It is, of course, necessary to fill the tube with water before connecting it with the plug so that any unsterilized air which it might contain will not be drawn into the abdominal cavity. This appears to be a useful device, well worthy of professional attention.

Sprains and their Appropriate Treatment.

Primrose (*Canadian Practitioner*) holds that the aim of treatment for sprains is the early absorption of effused material and the prevention of adhesions. For the immediate treatment of a recent sprain pressure is of paramount importance. This should be applied as follows: The joint—say the ankle, for instance—is placed at a right angle (or, if possible, at less than a right angle) with the leg, then cotton-wool or ordinary cotton batting is applied evenly over the foot from the toes upward to the middle of the leg. The amount of wool must be considerable, loosely applied, it should be fully three inches in depth. Over this is applied the bandage from the toes upward, which is drawn as tight as possible. There is no danger of making too much pressure, provided there is sufficient cotton wool. This usually alleviates pain immediately by affording pressure to the blood-vessels and keeping the part at rest. The bandage and wool are removed at the end of a few days, a week at the longest, and carefully instituted passive movement is employed; then the dressing is reapplied to prevent further effusion. In ten to fourteen days cotton wool may be dispensed with and the support of an ordinary flannel roller substituted. The patient is able to use the injured joint for ordinary purposes after the lapse of about three weeks in the majority of severe sprains. In sprains of slight severity massage may be begun at once with excellent results, and in old sprains massage is by far the most appropriate treatment and indispensable in order to effect a cure. Heat and cold are at best temporary methods of relieving congestion, and do harm if employed to long.

Vaccination by Scraping a Defective Process.

Ortega, (*Bull. Glende Therapeutique.*) The author, who practices medicine on the frontier of Mexico, states that he has observed that most of the North American people are vaccinated by this process, and that a great number of the latter, although bearing a large and deforming cicatrice, contract smallpox, or can be successfully vaccinated by puncture. On the contrary, among those vaccinated by puncture very few suffered from the contagion, while revaccination was only successful in a few cases.

As these observations were made on both Mexicans and Americans, the author concludes that the race has no influence on the receptivity, and that vaccination by scraping or scarifying increased the chances of the introduction of the germs of suppuration, which although they produce inflammation and cicatices, have nothing to do with vaccine, which they destroy; while, with the puncture made on various places, a very slight opening is offered for the accessory inflammation, and the virus of vaccine has more chance to develop. The vaccination by puncturing is very seldom followed by those large inflammations which accompany too frequently the other mode of inoculation.

The process of vaccination by puncture is recommended by the New York Biological and Vaccinal Institute, but it is well to add that on account of the very slight incision made in the integument, the quality of the virus must be as near perfection as possible.

Indications for Plaster of Paris Jacket.

Dr. B. F. Wooding, *Denver Medical Times*, says: A plaster of Paris jacket is indicated in all cases where a fixed supporting dressing is needed to hold the vetrebral column in as near a normal position as practicable, whether the deformity is caused by a fracture or some active pathological changes taking place in the bodies of the vertebræ.

The most frequent use of the plaster of Paris jacket will be found in treating abnormal curvatures or angular deformities of the spinal column, produced by a so-called Pott's disease or caries of the bodies of the lumbar or dorsal vertebræ.

In diseases and injuries of the cervical vertebra the cast will be used as a base to insert the upright support of the jury mast, on

which to suspend the weight of the head, thereby taking the weight off the cervical vertebræ.

In relieving the vertebræ of their weight we allow nature to build up and restore, under the most favorable circumstances, the destroyed or disintregrating tissues.

All curvatures, whether antero-posterior or lateral, produced by irregular muscular contraction, not amenable to treatment by gymnastics, should be suspended until the normal curvature of the spinal vertebræ is restored as nearly as practicable, which requires two to five minutes, and then a plaster of Paris jacket applied.

Treatment of Uterine Deviations by Faradization.

Regnier (*Societe d' electrotherapie*): Despite accumulated proofs of its efficaciousness the electric treatment of uterine deviations is rarely used. There is no known method of producing contractious of the uterus which may not be satisfactorily replaced by abdomino-uterine, lumbo-uterine, lumbo-pubian faradization, which is little, if at all, painful. For retroversion, or retroflexion, uterine faradization is indicated; for ante-rversion, sacro-uterine faradization. The length of each application is three minutes; the number, three a week at the beginning of the treatment, and two at end. The treatment should not begin until three days after the end of the menstrual period. The intensity must be sufficient to make the contractions slightly perceptible to the hand which holds the uterine electrode. The induction coil used must be made of thick wire. The interruptions should be frequent. The length of treatment varies from ten to twenty sessions, rarely more. It should be longer in versions complicated by flexions, and in cases accompanied by vaginal and perineal lesions.

Steam as a Hemostatic.

Professor W. F. Snegirew of Moscow, reports the successful use of steam for hemostatic purposes in several cases where other means have been unsuccessful or inconvenient. His attention was called to the possibility of using steam as a general hemostatic, as the result of a severe hemorrhage occurring during an operation on the liver. On reading the literature of hepatic hemorrhage he was impressed, he says, by the general helplessness of the surgeon, in such cases. "Even the actual cautery was not always sufficient, and in most cases required the additional aid of a closely placed tamponade of gauze."

For some time Professor Snegirew had been in the habit of using steam as a cauterizing and hemostatic agent in the treatment of uterine disease in the following manner: After dilating the uterine canal an application of steam was made through a small metal tube inclosed in a catheter. After a half, or at most a full minute of this application, a dark fluid, with a strong brothy odor, returns through the catheter. In his experience there has been no pain attending this application, and many cases of tender, painful, bleeding conditions of the uterine mucosa have been entirely relieved.

Carrying out the suggestion from this use of steam he conducted a series of experiments with Dr. Blagewolin, to determine the hemostatic value of steam upon the liver and other organs. Their results in animals were as follows:

1. They were enabled to remove, without loss of blood, such sized pieces of the liver as they chose, the animal surviving.
2. Similar results were obtained on the spleen.
3. They removed entire lobes of the lungs without hemorrhage.
4. Considerable sized pieces of kidney were successfully removed.
5. From the brain, excision of pieces up to a limited size.
6. Bleeding from the spongy portions of the bones was stopped.
7. The marrow was scalded, but the restoration of the bones went on as usual.
8. The femoral artery of a dog, cut through, either across its course or lengthwise, did not bleed under the application of steam.
9. The wounds after the use of steam healed by primary intention in animals, and also in men upon whom it was used.

As the result of these experiments, steam was used as a hemostatic during the past summer in the Alexiner Semstwo Hospital with success in the following operations:

1. In five cases of resection of the knee-joint, without elastic bands, ligatures or artery forceps.
2. In the extirpation of a cancerous breast, under the same conditions as above; also in the removal of fatty and malignant new growths in the skin.
3. In amputation of the cervix uteri and in fibromyotomy.
4. In resection of bone and in removing sequestra.
5. In abscesses, to render them odorless and induce rapid healing.
6. In fistulæ and sinusees, especially when tubercular.

There seems little doubt in the minds of the investigators that in steam they have found a hemostatic of ready usefulness, aseptic, not interferring with primary union, and above all, applicable to parenchymatous organs, such as the liver. Certainly further reports will be eagerly awaited.—Boston *Med. and Surg. Jour.*

Surgery of the Stomach.

For cancerous tumors of the stomach surgery offers us two procedures. Resection, when the pylorus is involved, and gastro-enterostomy or a junction of the wall of the stomach with the intestine. As to the respective gravity of these operations Huinard gives a mortality of 62 per cent. in 153 resections. Le Boef, 58 per cent. in 108 resections, while Kocher had but two deaths in seven resections.

For gastro-enterostomy Guinard found reported 105 cases with 33 deaths. Rockwitz had but a mortality of 12.50 per cent., and the results of Hahn are better yet. Resection, then, is always a more grave operation than gastro-enterostomy. The contra indications are, first, great extent of the neoplasm; second, adhesions between the stomach, pancreas or liver; third, injection of the amentum; fourth, cancerous infection of the lymphatic-ganglia. As to the results of these operations, there can be no doubt but resection leaves more functional power, as the motor action of the stomach is but slightly impaired, while in gastro-enterostomy, it is quite suspended. In cicatricial contraction, resection should be the operation of choice, without malignant complications, while in extensive cancer gastro-enterostomy is the safest and most satisfactory as a palliative measure.

As for the treatment of round ulcer of the stomach we must take three factors into consideration: First, hemorrhage; second, peritonitis, and third, by perforation. Operations for hemorrhage, thus far, give us but little hope to expect much from them. Operations for peritonitis following perforation give a mortality, in 15 cases, 14 deaths.

Treatment of Epithelioma of the Face.

A. Darier (*Bul. Gen. de Therapeutique*), after having used chlorate of potassium, acetic acid, aristol, resorcin, etc., the author has adopted the following treatment: 1. The sore is well washed. 2. A solution of 10 per cent. of cocaine is applied with a pledget of cotton. 3. A few minutes later, methyline blue is applied (methyl blue, one gramme; alcohol and glycerine, aa five grammes) 4. The parts colored blue are touched *very slightly* with a steel probe dipped in chromic acid at 20 per cent. A purple reaction takes place. 5. Another methyline blue is applied again and the vicinity of the tumor is washed carefully to remove the excess of color. 6. The consecutive dressing is of cotton, moistened with 1-1000 solution of bichloride of mercury, in order to avoid the formation of scabs, which would be an obstacle to the subsequent treatment. This is repeated four or five times, at intervals of two or three days, and according to the area affected the treatment is continued for a period varying from two to eight weeks. Five successful cases were exhibited before the Dermatological Society of Paris.

Hot Salt Solution for Relief of Shock and Hemorrhage.

Dr. Wyeth, speaking at the meeting of the New York State Association of Railway Surgeons, strongly recommended the injection into the circulation, through a vein, of hot salt solution to take the place, in part, of the volume of blood which has been lost as a result of accident: "The solution which I have employed, running in as much as five pints in a single operation, is composed of clean water, which has been boiled and allowed to cool to 110° or 120° F., or just as hot as the hand can bear, to every pint of which a teaspoonful of common salt is added. I have seen the pulse go from 140, in cases of tremendous hemorrhage, steadily down to 70 to the minute, within two minutes of the injection of a pint of this solution. While it may be used cooler than 110° F., and in some emergencies this may be necessary, it is safer to give it as hot as 110° to 120°, because the cold solution robs the body of its heat, while the hot solution carries heat with it, and thus adds to the maintenance of the normal temperature. The apparatus is simple, a metal or glass pipette to go into the vein, a rubber tube three or four feet long and an irrigator bag or vessel."

Insufflation of Air for Tuberculous Peritonitis.

M. H Follet of Lille highly recommends the insufflation of air into the peritoneal cavity in cases of tuberculous peritonitis. He maintains that when laparotomies are performed for this condition, the great relief which almost invariably follows comes through ingress of fresh air, which sets up a reactionary inflammation of the serosa, that ends in the breaking down and resorption of the tuberculous masses.

He cites remarkable cases wherein the parents of a child of ten would not consent to a laparotomy. He introduced a trocar and drew away three liters of serum and then insufflated with three liters of air into the cavity of the peritoneum. Recovery was prompt and there was no relapse. Moorhoff of Vienna treated a case of tuberculosis of the epididymis by this plan with success in 1892.

He concludes by advising that when there are contra-indications to laparotomy, this is the course to pursue, as it is not dangerous, and usually succeeds.—*Le Mercredi Med.*

Endometritis and the Gonococci.

In the *Medical Fornightly* Dr. W. H. Humiston says:

During the past few months in every case of marked disease of the tubes and ovaries that has come to my clinic at The Western Reserve Dispensary, we have been able to not only find an active endometritis present, but on examination of the secretion from the cervical canal have found the gonococci of Neiser. This is confirmed by the observations I have made in my private work in all those cases that have been suffering from uterine disease but a comparatively short time yet have swolen tubes and ovaries, and evidences of pelvic peritonitis. Cases not gonorrhœal in origin may have been suffering from endometritis for a long period, yet there is no appreciable involvement of the tubes and ovaries. These facts are important, and lead us to a realizing sense of our great responsibility in making an early diagnosis as to the etiology of every case that first consults us. If it be of gonorrhœal

origin the symptoms will generally come on quite suddenly, and are so marked that a diagnosis may be inferred, but it is always best to make the routine test for gonococci and be certain, for in some comparatively mild cases of vaginitis and endometritis you will find them present, and by adopting active, thorough treatment, you will prevent the extension to the tubes and ovaries. These septic cases must be treated on modern surgical principles, *rest*, *asepsis* and *drainage* with *curetting*. When these cases are diagnosed early and the proper treatment instituted, the abdominal surgeon will not have his belt hanging full of suppurating tubes and ovaries. Why is it? The answer is: Abdominal growths are looked for and recognized early by the general practitioner, and so will the septic cases of endometritis be diagnosed early, and its far-reaching and disastrous results averted by adopting an active, thorough treatment, as I have above indicated.

Suture of the Torn Cervix Uteri Immediately after Labor.

Severe and alarming hemorrhage from the torn cervix requires suture or ligature *en masse*. An operation to check bleeding from the uterine artery or its branches should not be called trachelorrhaphy. Lacerations of the cervix are not accountable for post-partum hemorrhage, nor are they accountable for subinvolution. The liability of an open, torn cervix to become infected is a question difficult of solution. If the confinement has been surgically a clean one, infection cannot occur. If the accouchement has been filthy, we have no right to lock up in the uterus the lochial discharge. The torn cervices of Dubosseir's incisions do not become infected. An examination of frozen sections of post-partum cases fails to show such separation of torn cervical lips as those who advocate trachelorrhaphy picture. It is difficult to tell how much of the tissue will be cervix, when involution is complete, and how much lower uterine segment or vagina, since the anatomical relations of the parts are so disturbed by the merging of the uterine and vaginal canals into one parturient tract. It is the author's belief that there is but one indication for immediate repair for the torn cervix,—hemorrhage. To do trachelorrhaphy in all cases, where even marked separation of the cervical lips appears to exist, is to introduce into obstetrics one more interfering, meddlesome, routine operatian for which there is absolutely no reason; is to add more chance for infection; and is to undo what nature, at great pains and beneficently, has accomplished, viz., a provision for the free escape of the lochia. The large everted flaps of cervical tissue which we see some months after labor are not natural; but the abnormality existed before conception, has been increased by pregnancy, and demands only the operation which should have been done before conception.—*William R. Pryor, M.D., New York Medical Journal.*

Rhythmical Traction of the Tongue in the Treatment of Asphyxia.

The *Therapeutic Gazette*, gives an editorial article upon this subject. Laborde claims that this method is the most powerful and simple of all means employed against death from respiratory failure. By traction upon the tongue the diaphragm is excited to its respiratory function, the sensory impulse is conveyed by the superior laryngeal, the terminal tracheal and bronchial expansion of the pneumogastric, the glosso-pharyngeal and lingual, and the motor respiratory nerves, especially the phrenic, respond to the reflex excitation.

Traction is performed fifteen times to a minute at about equal intervals, the tongue being pulled out sharply, so that its whole body, and not merely the tip, is affected. Traction should be kept up at last thirty minutes. Mechanical artificial respiration should be applied at the same time, two assistants making pressure simultaneously, the first upon the sides of the chest and the second upon the epigastric region from below upward. The pressure is fifteen times to the minute, and at the moment when traction upon the tongue is relaxed.

By order of the Prefect of Police, notices giving the method of Laborde have been printed and posted in the life-saving stations throughout Paris.

The first case in which rhythmical traction of the tongue was employed in Paris was by Mr. Lapicida (*La Tribune Medicale*,) chief of the corps of the life-saving station. A young woman, attempting suicide, jumped into the Seine, and remained submerged for five minutes. When rescued frictions were applied, but without success; but after rhythmical traction of the tongue for five minutes respiration was established.

An interesting case is related (*La Tribune Medicale*,) of apparent death from violent shock by an electric current of a strength of more than two thousand volts. The hand of the patient was burned and his body was black. Rhythmical traction of the tongue was made for more than an hour, when natural respiration was re-established.

Prostatectomy.

Lagoutte (*Gazette Hebdomadaire de Medecine et de Chirurgie*), after an elaborate review of the operations for enlarged prostate, comes to the conclusion that it is only applicable to extremely few cases. The good results of the operations he claims are due mostly to the fact that the bladder has been drained and not to the removal of any obstruction. Excisions of parts of the prostate are satisfactory only where there is a middle lobe that is pedunculated and easily removed or enucleated. In operating by the perimeal route the large tube introduced is often a source of great distress, and cannot be borne, and in the larger number of cases the disease again causes obstruction. He advocates the employment of the simple supra-pubic cystotomy of Poncet. These cases occur in patients much debilitated and un-

desirable subjects for long bloody operations, and he urges the employment of the simplest quickest means which will give the patient comfortable and satisfactory urination.

The Circulation of the Lymph in the small Lymphatic Trunks.

Ranvier has succeeded in injecting Prussian blue into the capillary network and small lymphatics in the ear of a living rabbit. The injection gave no pain nor any disturbance of the blood circulation; the course of the injection could be plainly seen. The color in the lymphatic trunks became paler and disappeared in two or three minutes, while the network of the lymphatic capillaries was still blue. This is due to the activity of the lymph circulation and not to decoloration in situ. Further the coloring matter was found in the ganglion at the base of the ear.—*Prog. Med.*

Pott's Disease in Children.

Pott's disease in children is so often recognized so late in its course that all hope for improvement is futile. The early symptoms and signs which should always be looked for are down by Dr. Dillon Brown in the *Archives of Pediatrics* in the following list of different points:

The pain, general disability and sickness are out of proportion to the apparent of spinal disease.

The onset is alarming and the progress of the disease is more rapid than in tubercular caries—the paralysis being an early symptom and the deformity appearing even in a few weeks after the beginning of the symptoms.

The local pain is intense; and the peripheral pains, the deformity, the extreme spinal disability and the paralysis, including incontinence of urine and fæces, rapidly grow worse in spite of rest in bed and instrumental support.

Secondary disease soon appears, rapid emaciation and marked cachexia are seen, and the patient does not live more than six or eight months.

Whether a vertebral caries is due to syphilis or to tuberculosis is of immense importance as regards prognosis and treatment. In both diseases the symptoms are almost identical, and the diagnosis must be based upon the history, the presence or absence of the evidences of syphilis, and the result of treatment. In tuberculosis there is more likely to be an evening rise in temperature, and the pus and debris may contain tubercle bacilli. Syphilis is suggested by nocturnal pains and the involvement with chronic disease of some other joint or joints or some other part of the spine.

Brown-Sequard Method.

Gibier (*New York Therapeutic Review*), after a brief review of Brown Sequard's work and the results obtained by him, reports his personal observations as to the hypodermic employment of testicular and other organic extracts. Two cases of progressive muscular atrophy and two cases of paralysis agitans showed no improvement. In two cases of cancer there was very marked improvement in the general condition. A number of other cases are cited in which the cancer cachexia was practically cured by orchitic extract.

The case of Megnin's dog is also recalled. This animal was in the last stage of cachexia produced by general sarcomatosis and was paraplegic. After three weeks of organic fluid injection he was able to climb a flight of stairs, and six weeks later was entirely cured. Ultimately the dog was killed accidentally. The autopsy showed that the many tumors of the serous membrane and the viscera had undergone fibro-calcareous degeneration. Two cases of diabetes were treated with extracts from the testicles and pancreas; one was improved and the other apparently cured. One case of nocturnal emissions was markedly improved. One case of epilepsy was practically made worse. One case of Thomsen's disease (muscular spasms and trembling on the beginning of voluntary motions) was improved. In neurasthenia the results were most excellent. Several cases of locomotor ataxia were improved. One case of bulbar paralysis apparently hopeless in its prognosis was cured. Here both extract of testicle and of nervous matter were used.

A New Method of Anæsthesia.

M. M. Paul Langlois and Maurange read (*Chem. and Drug.*) a paper at the Academy of Medicine, Paris, on a new method of anæsthesia by the association of chloroform with sparteine and morphine. The object of this combination is to diminish the danger of stoppage ot the heart and fainting in anæsthesia by chloroform. M M. Langlois and Maurange state that a quarter of an hour before administering chloroform they give the patient a hypodermic injection composed of three centigrammes of sparteine and one centigramme of hydrochloride of morphine. This they have used in 140 cases, and in none of them had they the slightest anxiety regarding the heart's action. The only objection made to the paper, and it was acknowledged by the authors, was that many hundreds of experiments are necessary before it is possible to judge definitely regarding the utility of the method.

Incontinence of Urine.

Dr. White's formula is:

Benzoate soda.....	
Salicylate soda.....āā	gr. xv
Ext. belladonna.....	gr. xxx
Cinnamon water.....	ʒiv

A teaspoonful four or five times a day.

—*Archives of Pediatrics.*

Hysteria.

Rosser suggests $\frac{1}{10}$ grain of apomorphine, hypodermatically, to break up and prevent the recurrence of hysterical attacks.

Double Castration Under Cocaine for Head Symptoms, etc, Due to Injury of Testicles.

Marshall (*Virginia Medical Monthly*) reports the case of a man, aged forty-seven, who had lost the power of sexual intercourse, as he supposed, from an injury by lifting The testes and cord became tender on pressure and were at times extremely painful, the cremaster contracting spasmodically and producing severe headaches. The patient's mind became greatly affected; he drifted into a melancholic state, even refusing to take food.

Marshall injected a two per cent. solution of cocaine, using in all, two drachms of the solution. He then removed both testicles. This was done without pain. The results of the operation were highly satisfactory. The pains were cured and the head symptoms disappeared, the patient's mind remaining perfectly clear.

The Flap Method of Operating.

Chiene advocates the more general use of the flap method of operating. It consists in exposing a part by means of a flap instead of making a direct incision down to it. The advantages claimed are that the wound in the deeper parts is at a distance from the skin wound, the skin over the deeper wound is not interfered with; it supports the deeper tissues which have been divided, and rapid healing takes place. The flap is composed of skin and subcutaneous tissue. It should, as a rule, be crescentic, and not horse-shoe shaped. The incision should be made as far as possible from sources of septic infection. The main blood-supply should enter the base of the flap; this, however, is secondary. He recommends its use in the removal of loose cartilages from joints, in operations for hernia, in excision of the knee, in the removal of tuberculous glands, operations on the tendons, and in many other cases.—*Brit. Med. Jour.*

Acetanilid as a Surgical Dressing.

At a recent meeting of the Philadelphia County Medical Society, Dr. Thomas S. K. Morton read a report of the use of acetanilid in surgery, based upon his observations in an extended hospital and private practice. The results were so exceedingly favorable that he recommended its general adoption. In all operation on wounds, including amputations, used as a dusting powder, it promoted healing without suppuration. Its effect was to thoroughly dry the wound so that the usual drainage tube was not necessary. In cases of scalds and burns it dries and soothes the affected surface, allowing healing to take place rapidly. As a dressing to chronic sores and ulcers it proved superior to other dressings. But two cases of constitutional effects were observed, one in his own practice and one reported by a surgeon in California; and, in both, the powder was applied over a large area in cases of extensive burns. Neither case was fatal.

Acetanilid is very cheap, being at present only forty cents per pound. It is colorless and non-odorous. It is soluble in five parts of alcohol, and in four-tenths parts of boiling alcohol; in 194 parts of water at 59° F., and in eighteen parts of boiling water, in eighteen parts of ether, in equal parts of chloroform, and in the various petroleum oils in the proportion of forty grains to the ounce. In powder form it may be mixed with pulverized starch, boracic acid, or, if an alkaline powder be desired, bicarbonate of sodium. The best preparations are as follows:

For dusting powder, pure acetanilid, or one ounce of acetanilid to two to four ounces of starch, freely triturated; for a solution, one drachm of acetanilid dissolved in five drachms of alcohol, to which add about eight ounces of boiling water and let cool; for an oily solution, forty grains of acetanilid to one ounce of liquid petrolatum; for an ointment, forty grains of acetanilid to one ounce of petrolatum; for a collodion, forty grains of acetanilid to one ounce of collodion. These proportions will be modified by the practitioner to suit particular cases as his experience advances.—*Indiana Med. Jour.*

Traumatic Glycosuria.

Glycosuria in any form is always an interesting study but ever since the experiments of Claude Bernard on this subject the study of traumatic glycosuria has occupied scientific attention more or less. Drs. F. A. Higgins and J. B. Ogden have made observations on 212 cases of head injuries in the Boston City Hospital and their conclusions as laid down in the *Boston Medical and Surgical Journal* are exceedingly instructive. They are:

1. That, after injury, sugar may appear in the urine as early as six hours, and disappear within twenty-four, the average time for its appearance, however, being from eight to twelve hours; for the disappearance of the same, from the fifth to the ninth day.

2. That a small proportion of the cases may exhibit a permanent glycosuria from the date of injury to the head.

3. That acetone and diacetic acid are rarely if ever found in such cases, excepting where the condition becomes a permanent glycosuria, and even then probably only after a number of months or years.

4 That of the 20 sugar cases here recorded, 11 (55 per cent.) had received an injury to the right side of the head; 5 (25 per cent) to the left side; 3 (15 per cent.) to the occiput, and 2 (10 per cent.) where there was no external evidences of violence.

5. That it is impossible in the present state of the knowledge of the pathology of diabetes and glycosuria to draw any inferences from the autopsies which have been obtained. It was thought best, however, to report them in full.

6. That there is little to be said in regard to the mortality. Of the 20 cases, 8 died—6 being the direct result of severe injuries, 1 from intercurrent disease, and the third probably from alcoholism. In the 212 cases, 16 were fatal, 50 per cent. of these having glycosuria.

Septicemia.

Septicemia after childbirth and particularly after miscarriage is a very dangerous complication. Dr. D. Rose gives his method of treatment of such cases in the *New York Medical Journal*. He wipes out the uterine cavity until the borated cotton comes away odorless and then he applies iodized phenol to the interior of the uterus. This he repeats daily, if necessary, and also gives internal medication. This method of treatment is attended with no pain, no risk, and in his hands has been uniformly successful.

Movable Kidney.

De Renzi (*Brit. Med. Jour.*), in a clinical lecture on a case of movable kidney, says that in the physical examination of such cases he prefers the lateral to the dorsal position. Movable kidney is often associated with dilatation of the stomach; this is either a mere coincidence, or due to pressure on the duodenum, or a reflex neurosis. Glenard believes that movable kidney is only part of a general prolapse of the abdominal organs due to loosening of the various ligaments. In De Renzi's case there was also prolapse of the stomach with slight dilatation and slight prolapse of the uterus. In cases where there is evidence of a more or less general prolapse of the abdominal organs, surgical interference for the movable kidney is always insufficient.

ARMY AND NAVY.

CHANGES IN THE U. S. MARINE HOSPITAL SERVICE FOR THE FIFTEEN DAYS ENDING APRIL 15, 1895.

Purviance, George, Surgeon: detailed as Chairman Retiring Board for physical examination officers of revenue cutter service, April 8, 1895.

Austin, H. W., Surgeon: detailed as member Retiring Board for physical examination officers of revenue cutter service, April 8, 1895.

Carter, H. R., detailed as Recorder Retiring Board for physical examination officers of revenue cutter service April 8, 1895.

Glennan, A. H., Past Assistant Surgeonl granted leave of absence for three days, Apri: 9, 1895.

Stoner, J. B., Past Assistant Surgeon: when relieved to proceed to Philadelphia, Pa , for duty, April 5, 1895.

Guiteras, G. M., Past Assistant Surgeon: granted leave of absence for six days, April 5 and 8, 1895.

Perry, J. C., Past Assistant Surgeon: to proceed to Portland, Ore., and assume command of service, April 5, 1895.

Eager, J. M., Past Assistant Surgeon: to proceed to Gulf quarantine station for temporary duty, April 5, 1895.

Stewart, W. J. S., Assistant Surgeon: to proceed to Philadelphia, Pa., for temporary duty, April 9, 1895.

Norman, Seaton, Assistant Surgeon: to proceed to Norfolk, Va., for temporary duty, April 9, 1895.

Cumming, H. S., Assistant Surgeon: to proceed to Boston, Mass., for temporary duty, April 9, 1895.

NEWS AND MISCELLANY.

Northwestern University Woman's Medical School.

CHICAGO, April 13, 1895.

At a Meeting of the Faculty of the Northwestern University Woman's Medical School the following resolutions were unanimously adopted and ordered to be placed before the Illinois State Board of Health:

WHEREAS, On three occasions within the past three years, the Illinois State Board of Health has licensed to practice medicine in this State, students who have not properly qualified themselves for such duties, and whose incompetence has compelled us to withhold the degree of Doctor and Medicine, and

WHEREAS, By common report we are informed that the State Board has adopted a similar policy with reference to numerous other persons; therefore,

Resolved, By the Faculty of the Northwestern University Woman's Medical School that the State Board be requested hereafter to make its examinations so rigid that persons incompetent to obtain the degree of Doctor of Medicine from first-class medical colleges cannot obtain license to practice from the Illinois Stated Board of Health.

Resolved, That the State Board of Health be urged to do all in its power to secure a modification of the State law so that the privilege of examination for license to practice in this State can only be obtained by graduates of recognized Medical Schools in good standing.

Resolved, That for the protection of the life and health of our people we believe it the duty of the State Board of Health to do all in its power to prevent the entrance into the medical profession in this State of any persons not properly qualified; and

Resolved, further, That in the interests of humanity and medical science we believe the State Board should make its standard of qualifications as high as that of the best medical college in this country and that it should do all in its power to aid and encourage the efforts of the profession and the people for thorough medical education and higher requirements of licentiates and for the degree of Doctor of Medicine.

MARIE J. MERGLER,
Secretary.

Jefferson Medical College Reunion, Class of 1874.

It is proposed to have a reunion of the class of 1874 of the Jefferson Medical College, on the evening of May 10th, in Philadelphia. Members of the class who have not received an announcement will please forward their names to E. E. Montgomery, 1715 Walnut Street, Philadelphia.